U.S. DEPARTMENT OF COMMERCE
National Technical Information Service
PB-285 265

United States Steel Corporation Number 8 Blast Furnace, Fairfield, Alabama

U.S. Environmental Protection Agency, Atlanta, Ga Region IV

26 Jul 78

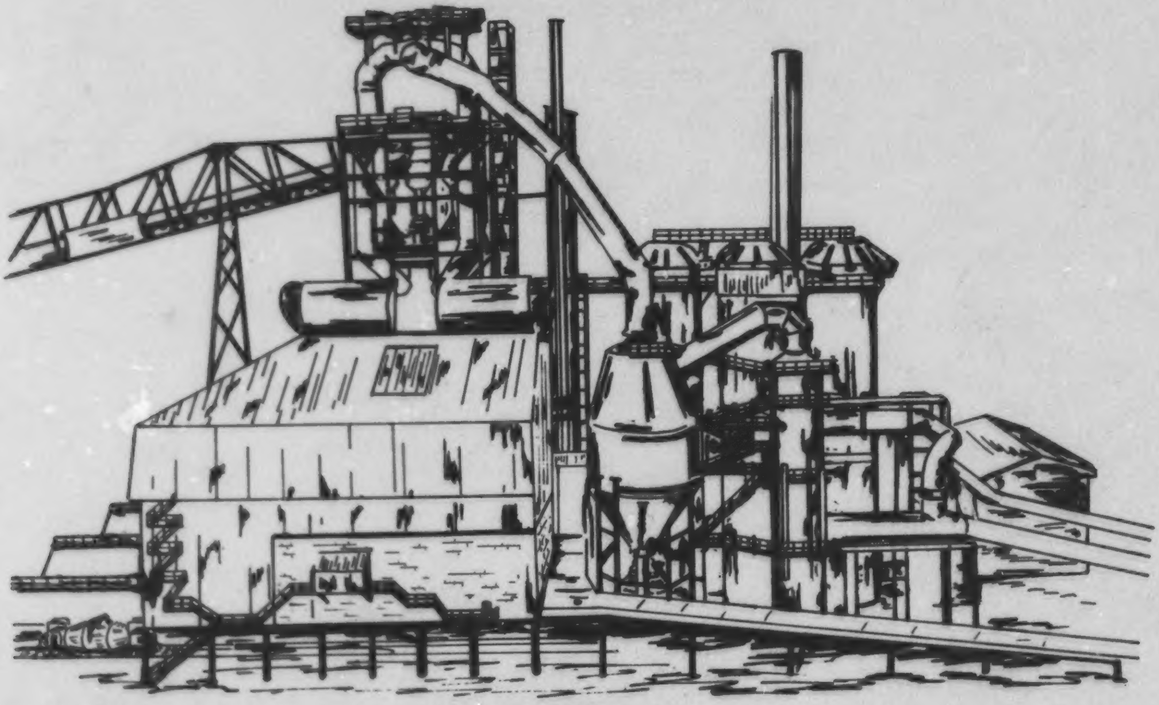
EPA 904/9-78-015

PB 285 265

FINAL

ENVIRONMENTAL IMPACT STATEMENT

United States Steel Corporation
Number 8 Blast Furnace
Fairfield, Alabama



UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 Courtland Street
Atlanta, Georgia 30308

REPRODUCED BY
NATIONAL TECHNICAL
INFORMATION SERVICE
U.S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA. 22161

189

BIBLIOGRAPHIC DATA SHEET

1. Report No. EPA 904/9-78-015

2.

3. Recipient's Accession No. PB285265

4. Title and Subtitle
Final Environmental Impact Statement, U.S. Steel Corporation Number 8 Blast Furnace, Fairfield, Alabama

5. Report Date July 26, 1978

6.

7. Author(s) EIS Preparation Section, EPA, Region IV Atlanta, GA

8. Performing Organization Rept. No.

9. Performing Organization Name and Address
EPA, EIS Branch, Region IV
345 Courtland Street, N.E.
Atlanta, GA 30308

10. Project/Task/Work Unit No.

11. Contract/Grant No.

12. Sponsoring Organization Name and Address
Same as above

13. Type of Report & Period Covered Final EIS

14. 904/00

15. Supplementary Notes

16. Abstracts

The United States Steel Corporation has proposed to construct a new blast furnace as part of a modernization program at the Fairfield Works in Jefferson County, Alabama. The final EIS summarizes the draft EIS, presents the official transcript of the public hearing and responds to substantive comments made at the public hearing and submitted in writing. The major federal action is the issuance of the new source NPDES permit allowing discharge of wastewater from number 8 blast furnace. The agency decision is to issue the new source NPDES permit.

17. Key Words and Document Analysis. 17a. Descriptors

Iron production
Steelmaking
Birmingham, Alabam
Valley Creek
Air Quality

17b. Identifiers/Open-Ended Terms

17c. COSATI Field/Group

18. Availability Statement

19. Security Class (This Report) UNCLASSIFIED

20. Security Class (This Page UNCLASSIFIED

21. No. of Pages 180

22. Price PCA09/MF A01

EPA 904/9-78-015
NPDES Application Number:
AL0003646

FINAL
ENVIRONMENTAL IMPACT STATEMENT

for

Proposed Issuance of a New Source National
Pollutant Discharge Elimination System Permit

to

United States Steel Corporation
Number 8 Blast Furnace
Fairfield, Alabama

prepared by

U.S. Environmental Protection Agency
Region IV
Atlanta, Georgia 30308

Approved:

John C. White
Regional Administrator

July 26, 1978
Date

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: September 7, 1978

SUBJECT: Items to be submitted to NTIS

FROM: Stephanie Lankford
EIS Branch, Region IV

TO: NTIS Input Section

Enclosed is the following document to be entered into the NTIS system:

Final Environmental Impact Statement, U.S. Steel Corporation Number 8 Blast Furnace Fairfield, Alabama.

Charges for input should be made to EPA under their agreement with you.

Thank you.

1b

EPA FORM 1320-6 (REV. 3-76)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET
ATLANTA, GEORGIA 30308

July 31, 1978

TO: ALL INTERESTED GOVERNMENTAL AGENCIES, PUBLIC GROUPS,
AND CONCERNED INDIVIDUALS

The enclosed final environmental impact statement (EIS) for the United States Steel Corporation number eight blast furnace is hereby submitted for your review and comment. This document has been prepared pursuant to Section 102(2)(c) of the National Environmental Policy Act (NEPA). Public Law 91-190.

The United States Steel Corporation has applied for an NPDES Permit to discharge wastewater from the number eight blast furnace which is under construction at their Fairfield Works. They have applied for their other necessary state permits and approvals.

The final environmental impact statement may be reviewed at the EPA Region IV office and also at the public libraries listed below:

Birmingham Main Library, 2020 7th Avenue North, Birmingham
Avondale Branch, 509 40th Street, Birmingham
East Ensley Branch, 900 14th Street, Ensley
East Lake Branch, 5 South 77th Street, Birmingham
Ensley Branch, 1201 25th Street, Ensley
Georgia Road Branch, 501 43rd Street, Birmingham
Huffman Branch, 501 Huffman Road, Birmingham
North Birmingham Branch, 3200 27th Street North, Birmingham
Parke Memorial Branch, 1814 11th Avenue South, Birmingham
Pratt City Branch, 820 2nd Street, Pratt City
Slossfield Branch, 1916 25th Court North, Birmingham
Smithfield Branch, 18th Avenue West, Birmingham
Southside Branch, 26th Avenue Southwest, Birmingham
West End Branch, 1241 Tuscaloosa Avenue Southwest, Birmingham
Woodlawn Branch, 5709 1st Avenue North, Birmingham
Wylam Branch, 4300 7th Avenue, Birmingham

The 30-day period required for a public review of the final EIS before administrative action can be taken begins on the date that the EIS was made available to EPA, Office of Federal Activities, (July 26, 1978).

Please bring this notice to the attention of all persons who would be interested in this matter.

for John A. Little, Deputy
John C. White
Regional Administrator

Enclosure

10

Summary Sheet For Environmental
Impact Statement
Number Eight Blast Furnace
United States Steel Corporation

( ) Draft
(X) Final

U. S. Environmental Protection Agency, Region IV
345 Courtland Street N.E.
Atlanta, Georgia 30308

1. Type of Action: Administrative (X) Legislative ( )

2. Description of Action: The U. S. Steel Corporation is proposing to modernize their facilities at the Fairfield, Alabama plant by addition of the new (No. 8) blast furnace and auxiliaries. Accompanying this action is the installation of a third Q-BOP (variant of the Basic Oxygen Process) furnace, a 57-oven coke battery, 4 additional soaking pits, and the idling of 4 old coke batteries.

These changes at the Fairfield plant will continue existing coking capability and replace existing blast furnace operations at the U. S. Steel Ensley plant. This will also restore the steelmaking capability which was lost by shutting down the uncontrolled open hearth furnaces at the Ensley plant. Moreover, successful operation of the new Fairfield blast furnace will permit the phase-out of three Ensley blast furnaces.

Blast Furnace No. 8 will be located immediately north of existing blast furnace No. 7 at Fairfield operations. Fairfield Works is an integrated steelmaking facility located within Opossum Valley and southwest of the City of Fairfield, Alabama. Fairfield operations cover approximately 5,000 acres. The blast furnace complex area plan will occupy 13.15 acres.

Blast Furnace No. 8 will be characteristic of the larger capacity, higher top pressure facilities being constructed by the industry during this decade. The use of beneficiated charge has increased output as well as assisted control of the process from environmental considerations. The three products of operation--molten iron, slag, and blast furnace gas--are all of value and will be utilized.

Once in operation, the new blast furnace will require a different charge than the older operating units. The new furnace will receive coke, iron ore pellets, sinter and flux. The iron produced by this unit is estimated to be approximately 1,825,000 tons per year, following break-in.

The existing capacity of the Fairfield-Ensley steel-producing complex is 3.5 million ingot tons per year. Implementation of the proposed action would maintain this production capacity.

3. Summary of Environmental Impacts and Adverse Environmental Effects.

(A) Construction

The proposed new No. 8 blast furnace will be constructed on the Fairfield complex immediately north of facilities for blast furnaces No. 5, 6 and 7, which run south to north. Construction impacts are limited to excavating for foundations and earthmoving over approximately 13.15 acres prior to fabrication of the blast furnace. Sedimentation and siltation, due to construction runoff, have been controlled during heavy rains. These impacts have been mitigated by using proper construction practices and by directing all surface runoff through the U. S. Steel Corporation final retention pond for removal of suspended particulates. With construction limited to the existing facility, no impacts to wildlife or vegetation will occur. No archeological or historical sites recorded for the State of Alabama are located on the site of the proposed project.

The new blast furnace will take a minimum of 29 months to construct with a possible manpower peaking period around the twentieth month. Estimated peaking daily manpower requirement will be approximately 1,200 men during construction. The Birmingham SMSA will provide the major percentage of this work force except for certain specialty subcontractors.

(B) Operation

Operation of the proposed No. 8 blast furnace at the Fairfield Works will increase discharges approximately 1 mgd to Valley Creek through Opossum Creek. The proposed action will result in increases of 1.3 lb per day of cyanide, 2.6 lb per day of phenols, 52 lb per day of ammonia and 130 lb per day of total suspended solids loadings to Valley Creek.

Following the break-in period for the new blast furnace, the three remaining blast furnaces at the Ensley Works will be shut down. The proposed action will significantly reduce U. S. Steel Corporation discharges of 13.0 lb per day of cyanides, 1.8 lb per day of phenols, 103 lb per day of NH_3-N and 1,668 lb per day of total suspended solids to Village Creek. A reduction of pollutants from improved municipal treatment facilities, together with reduced loadings from the U. S. Steel facilities, may result in some improvement to the backwaters of Bayview Lake.

Overall impacts on water quality will be a net reduction of 8.9 MGD of wastewater, 1,538 lb per day of total suspended solids, 51 lb per day of NH_3-N, 11.7 lb per day of cyanides and a net increase of 0.8 lb per day of phenols, discharged to the tributaries of Bankhead Reservoir.

Air emissions from the U. S. Steel Complex will improve over pre-1977 operations. The modernization program, which includes the new No. 8 blast furnace, is the result of a plan to phase out antiquated equipment having high emission rates. The modern replacement facilities will utilize the latest production technology and improved abatement technology which is expected to result in a decrease of emission rates when considering the entire U. S. Steel Complex in the Birmingham area. Even though there will be a reduction in emissions, modeling indicates the air quality standards for particulates will be violated. However, there are inadequacies in the computer model employed as a predictive tool in the air quality investigation. These inadequacies preclude complete acceptance of the modeling results as far as the magnitudes of the predicted concentrations are concerned. An improvement in air quality from the standpoint of total suspended particulates, will result due to the substantially reduced emissions accompanying the modernization program.

Impacts to the biology of the receiving stream are difficult to ascertain since only pollution tolerant organisms have been observed in Opossum Creek and the upper reaches of Valley Creek near the confluence of Opossum Creek. The increased discharges from No. 8 blast furnace to Valley Creek, via Opossum Creek, may extend the area of impact further downstream toward Bankhead Reservoir.

The termination of wastewater discharge from the three remaining blast furnaces at Ensley will contribute to long-term biological recovery of Village Creek.

The extractive industry and its attendant activities comprise the major foundation of the economy of Birmingham and Jefferson County, Alabama. Projections of future growth for the Birmingham area by local planners rely heavily on assuming continuing growth of the iron and steel industry. A reduction of 22 employees will occur when the three Ensley blast furnaces are shut down. Additional employment may be generated by other U. S. Steel facilities at the Fairfield Works because of the increase availability of iron at higher production rates from the No. 8 blast furnace and the additional employment required to process this iron into final products for shipment.

4. Alternatives to the Proposed Action:

A. Build or no build
B. Capacity alternatives
C. Site location alternatives
D. Wastewater treatment alternatives
E. Air emission abatement alternatives

5. The following Federal and State Agencies and interested parties have submitted written comments on the Draft Environmental Impact Statement:

United States Department of the Interior
Department of Health, Education, and Welfare, Region IV
Department of Health, Education, and Welfare, Public Health Service, Center for Disease Control
United States Department of Agriculture, Soil Conservation Service, Auburn, Alabama
Department of the Army, Mobile District, Corps of Engineers
Department of Housing and Urban Development, Area Office, Birmingham, Alabama
Alabama Air Pollution Control Commission
Dr. Joseph J. Gauthier

6. This Final Environmental Impact Statement was made available to the Office of Federal Activities on July 26, 1978.

PREFACE

A. Federal Actions

This Final Environmental Impact Statement (FEIS) covers the proposed Number 8 blast furnace at the U. S. Steel Corporation, at Fairfield Works. It fulfills EPA's responsibility under the National Environmental Policy Act (NEPA) which is prerequisite to the pending issuance of a new source NPDES permit for this facility.

Pursuant to regulations implementing the NEPA of 1969, this statement on the construction of the Number 8 blast furnace was prepared utilizing a third party consultant procedure. Under this procedure, the applicant, U. S. Steel Corporation, nominated Associated Water and Air Resources Engineers, Inc. (AWARE, Inc.) as the contractor. AWARE, Inc. was then reviewed and approved by the EPA, Region IV, for objectivity and qualifications. All work completed by AWARE, Inc., was reviewed by EPA before final publication.

B. Format

This Final Environmental Impact Statement (FEIS) contains four (4) major items of information. Chapter 1 is a brief summary of the Draft Environmental Impact Statement. While the FEIS is designed to give an overview of the EIS process elements, the DEIS must be consulted for more detailed coverage.

Chapter 2 contains the official public hearing transcript and responses to substantive comments. Chapter 3 contains the written comments received on the DEIS and the Agency's responses. Chapter 4 is titled "Statement of Findings," comprising the Agency's decisions on the issuance of an NPDES new source permit. Appendix B presents the proposed NPDES permit.

A thirty (30) day comment period is initiated upon the concurrent receipt of this document by the EPA Office of Federal Activities and the availability of the document to the public. No Federal actions (issuance of permits) can take place during this period so that comments from other agencies and the public concerning these pending actions can be reviewed.

TABLE OF CONTENTS

Section No.	Title	Page No.
	REPORT ORGANIZATION	

Section No.	Title	Page No.
	Summary Sheet	i
	Preface	vi
	Table of Contents	viii
	List of Figures	x

Section No.	Title	Page No.
CHAPTER 1	SUMMARY	

Section No.	Title	Page No.
1.1	Project Development	1-1
1.2	NEPA Overview	1-2
1.3	Project Background	1-3
1.4	Existing Facilities and New Source Features	1-4
1.4.1	Existing Facilities	1-4
1.4.2	New Source Features	1-10
1.5	Existing Environment and Projected Environmental Impacts	1-16
1.5.1	Air Quality	1-16
1.5.2	Water Quality	1-18
1.5.3	Biology	1-21
1.5.4	Socio-Economic Considerations	1-22
1.6	Alternatives	1-24
1.6.1	Build or No-Build	1-24
1.6.2	Capacity Alternatives	1-26
1.6.3	Process Alternatives	1-26
1.6.4	Site Location Alternatives	1-26
1.6.5	Wastewater Treatment Alternatives	1-27
1.6.6	Emission Control Alternatives	1-28
1.7	Mitigative Measures	1-28
1.7.1	Construction	1-28
1.7.2	Operational Impacts	1-29
CHAPTER 2	TRANSCRIPT OF PUBLIC HEARING	2-1
CHAPTER 3	WRITTEN COMMENTS TO THE DEIS AND EPA RESPONSES	3-1
CHAPTER 4	STATEMENT OF FINDINGS	4-1
4.1	Agency Decision	4-1
4.2	Need for the Project	4-1
4.3	Air Quality	4-1
4.4	Water Quality	4-2
4.5	Biology	4-2
4.6	Manmade Environment	4-2

TABLE OF CONTENTS (CONT'D)

Section No.	Title	Page No.
APPENDIX A	U.S. Environmental Protection Agency Letter, April 15, 1976 to U.S. Steel Corporation	A-1
APPENDIX B	Proposed NPDES Permit Modification	B-1

LIST OF FIGURES

Figure No.	Title	Page No.
1-1	General Arrangement - Fairfield and Ensley Works	1-5
1-2	USSC Facilities in the Birmingham Area	1-6

CHAPTER 1
SUMMARY

CHAPTER 1

SUMMARY

1.1 PROJECT DEVELOPMENT

The United States Steel Corporation plans to sustain its iron and steelmaking capacity at Fairfield, Alabama by replacement of certain facilities. Discussions between U. S. Steel Corporation (USSC) and Region IV of the Environmental Protection Agency (EPA) confirmed that an environmental impact statement would be necessary with regard to the proposed activities. EPA determined (see Appendix A) that the new blast furnace would be considered a new source under the National Pollutant Discharge Elimination System (NPDES) Program, and thus be subject to all provisions of the National Environmental Policy Act of 1969 (83 Stat 852). Additionally, EPA determined that all three new facilities--the third Q-BOP furnace, new coke oven, and blast furnace--would be considered new sources under Section 110 of the Clean Air Act.

Subsequently, EPA and USSC selected Associated Water and Air Resources Engineers, Inc. (AWARE, Inc.) under a third party agreement to prepare an environmental impact statement under the direction of the Environmental Protection Agency. In the data acquisition, analysis and evaluation phases of this investigation, a large amount of information was generated. Practical considerations precluded the incorporation of all of this information into the Draft Environmental Impact Statement. Consequently, a Technical Support Document was prepared. The Technical Support Document and its Appendices contain all of the data which were generated and evaluated. That information, considered to be most pertinent to the definition of the environmental baseline and the impact evaluation, was presented in the Draft Environmental Impact Statement.

The Draft Environmental Impact Statement was made available to the public on May 12, 1978, and a public hearing was held on June 15, 1978. This document presents a summary of the proposed action and its impacts on the environmental baseline, alternatives considered, and measures employed to mitigate impacts. Also included in this document are a transcript of the public hearing, copies of the comments receivied on the Draft Environmental Impact Statement, and responses to the comments.

1.2. NEPA OVERVIEW

The authority of the preparation of an EIS as a result of issuance of a new source NPDES permit was summarized in the Federal Register on Tuesday, January 11, 1977, Part V, as follows:

> "The National Environmental Policy Act of 1969 (NEPA), 42 USC 4321 et seq implemented by Executive Order 11514 of March 5, 1970 and the Council on Environmental Quality's (CEQ's) Guidelines of August 1, 1973, require that all agencies of the Federal Government prepare detailed environmental statements on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment. The object of NEPA is to build into the Agency decision-making process an appropriate and careful consideration of all environmental aspects of proposed actions, explain potential environmental effects of proposed actions and their alternatives for public understanding, avoid or minimize adverse effects of proposed actions, and restore or enhance environmental quality as much as possible.
>
> Section 511(c)(1) of the Federal Water Pollution Control Act as amended (FWPCA) (Pub L 92-500) authorizes the Administrator to apply NEPA to the issuance of a permit under section 402 of the FWPCA for the discharge of any pollutant by a new source as defined in section 308 of the FWPCA. The discharge of a pollutant as defined in section 502(12) of the FWPCA means an addition of any pollutant to navigable waters, the contiguous zone or the ocean from any point source. The Environmental Protection Agency published proposed regulations in the Federal Register (40 FR 47714) on October 9, 1975, entitled "New Source NPDES Permits, Preparation of Environmental Impact Statements."

1.3. PROJECT BACKGROUND

The steel industry originally located in the Birmingham area due to the availability of all of the raw materials necessary for the making of iron and steel. In the latter part of the 19th Century, Colonel Enoch Ensley amalgamated several of the larger mining and productive concerns into the Pratt Coal and Iron Company. This company was the forerunner of the present-day U. S. Steel facilities located in the Birmingham area. These facilities make U. S. Steel the major producer of steel in the South and contain the South's only fully integrated iron and steelmaking complex.

In 1972, the open hearth facilities in Birmingham consisted of 12, 225-ton furnaces at Fairfield and five, 145-ton furnaces at Ensley. During the first six months of 1971, the combined production was 3.5 million ingot tons per year with 2.7 million tons from Fairfield and 0.8 million tons from Ensley.

Several years before air emission standards were promulgated in Alabama, U. S. Steel was engaged in investigations to replace open hearth steelmaking facilities at Fairfield Works with basic oxygen furnaces as a means to achieve compliance with anticipated standards.

About this time, U. S. Steel was investigating a variant of the basic oxygen process (BOP), which became known as Q-BOP. Research demonstrated that the grades of steel produced by Q-BOP would cover the range of Fairfield product mix, including such items as rails, axles, plates, and sheet and tin products. Also, the Q-BOP product was comparable in quality to that produced in the conventional basic oxygen process and open hearths. It was also demonstrated that, compared to the BOP, the Q-BOP process had a potential for improved yields and improved heat time. When it was clear the Q-BOP process was an improved steelmaking technology, it was decided to install large-scale Q-BOP steelmaking equipment in the No. 1 open hearth shop. Major facilities consisted of two, 200-ton furnaces with auxiliaries, including gas-cleaning equipment. Construction began in July, 1972.

With the construction of the Q-BOP at Fairfield, the elimination of air emissions and problems of obsolescence associated with the open hearth furnaces at Ensley became matters of serious concern for U. S. Steel. Studies were undertaken with the intent of finding a method of meeting pollution control requirements. In October, 1974, a plan was finalized which would idle both blast furnace and uncontrolled open hearth operations at Ensley. This proposal included a third Q-BOP, teeming facilities, new soaking pits, a new coke battery, and a new blast furnace at Fairfield, maintaining the production capability of Fairfield Works at 3.5 million net tons per year.

1.4. EXISTING FACILITIES AND NEW SOURCE FEATURES

1.4.1. Existing Facilities

1.4.1.1. Introduction

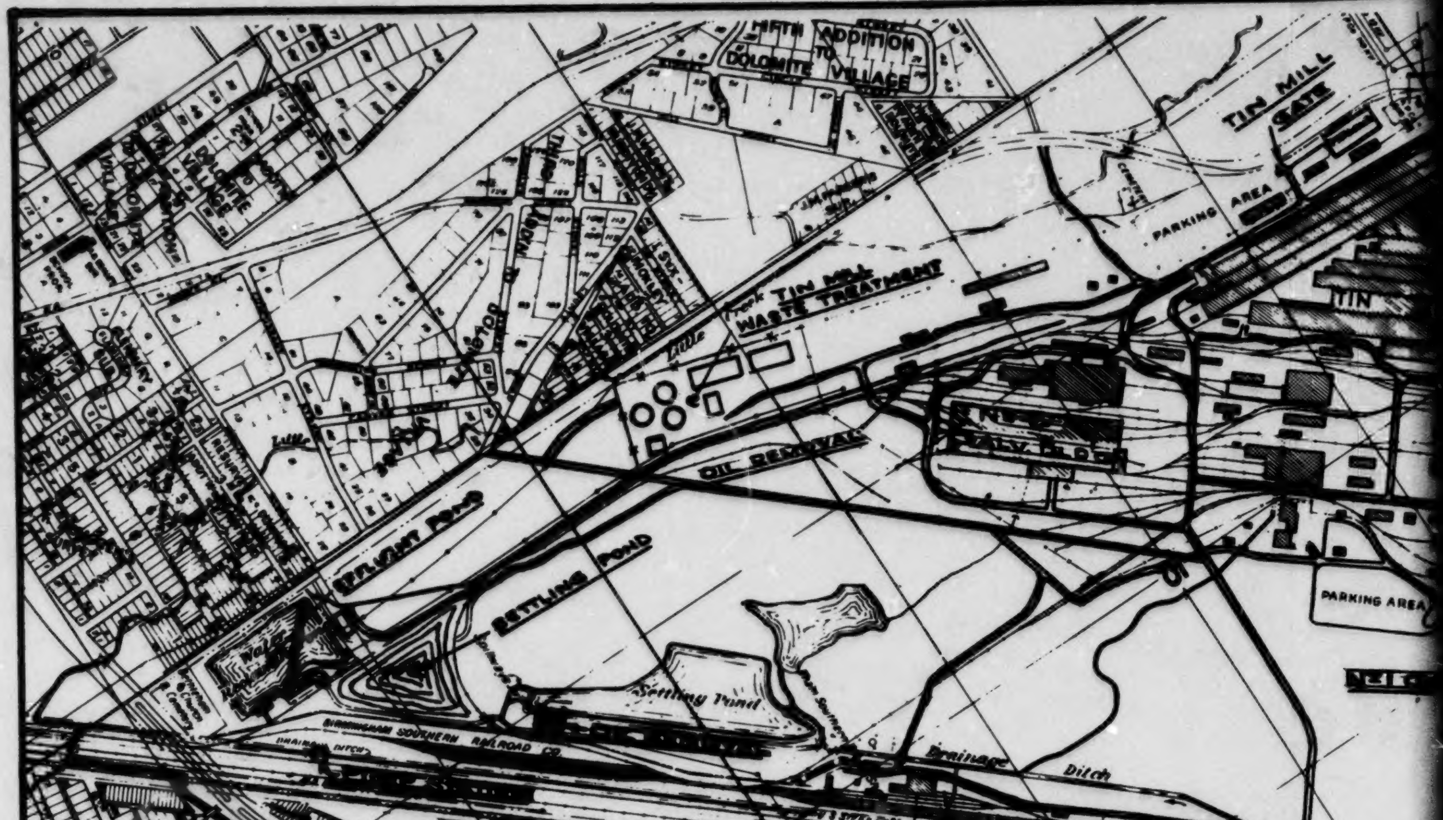
Fairfield Works, which includes operations at Fairfield, Ensley, and Wenonah, Alabama, is the largest and most diversified iron and steelmaking complex in the South. An overview of these facilities is presented in Figures 1-1 and 1-2. During a characteristic period from September to the end of December, 1975, the following operations were functioning at Fairfield Works:

Wenonah Operations

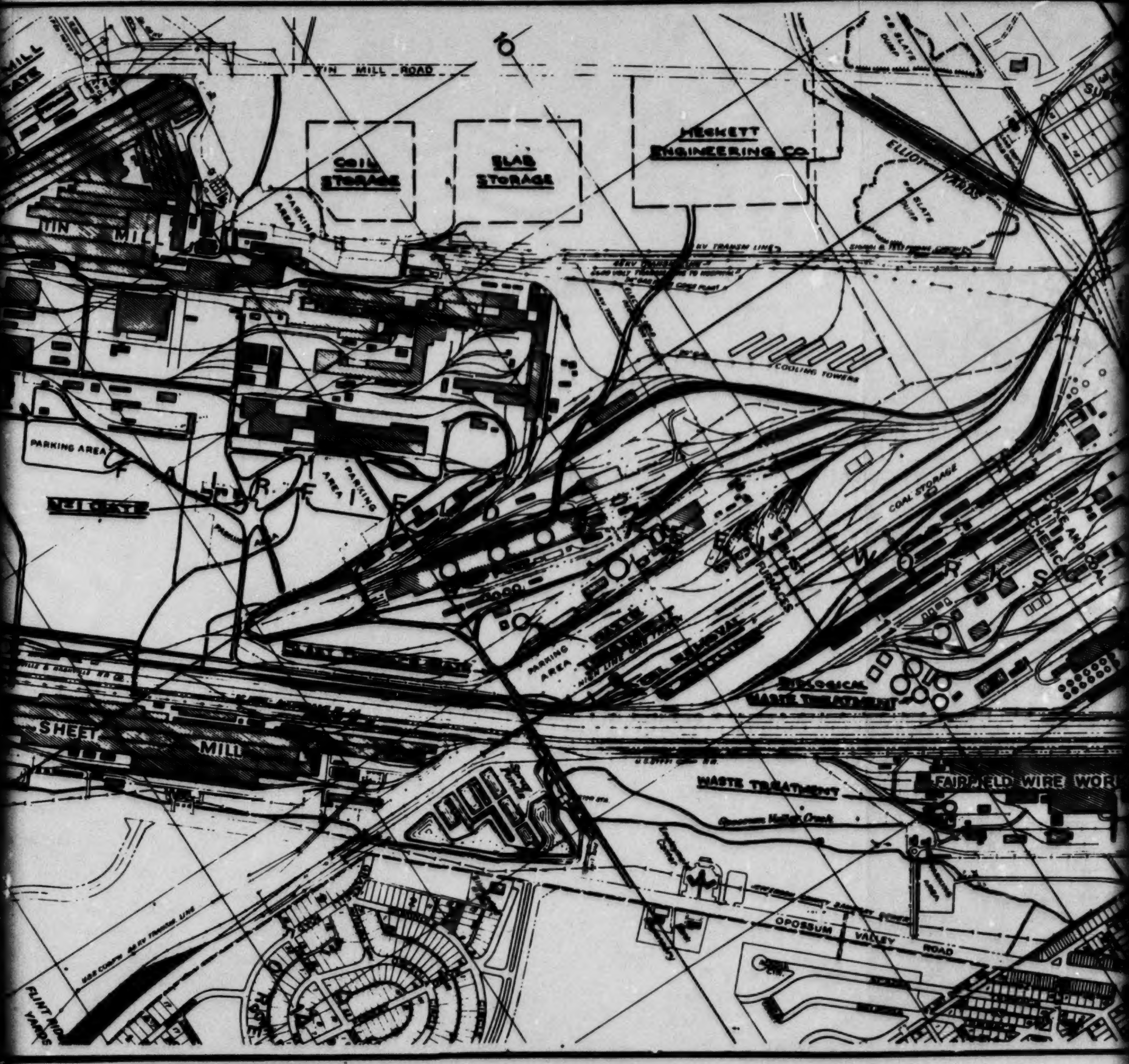
Sinter plant (4 strands operating)

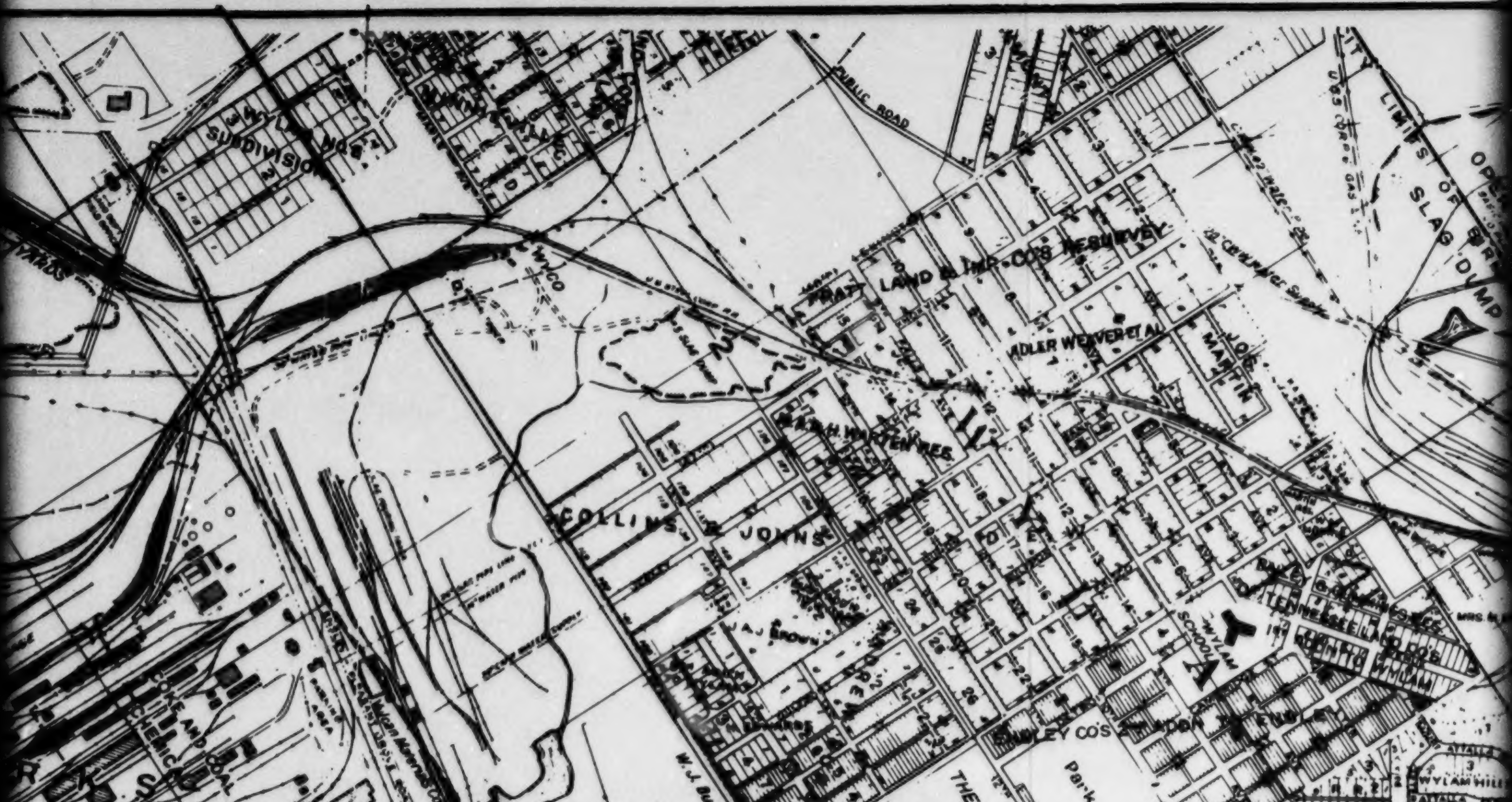
Fairfield Operations

1. Coke and coal chemicals plant (7 batteries operating)
2. Blast furnaces (3 operating)
3. Q-BOP's (2 vessels)
4. a. Plate mill (primary mill)
   b. Billet mill (finishing mill)


FIFTH ADDITION TO DOLOMITE VILLAGE
TIN MILL GATE
PARKING AREA
TIN MILL WASTE TREATMENT
Little Creek
TIN
OIL REMOVAL
EFFLUENT POND
SETTLING POND
Settling Pond
PARKING AREA
BIRMINGHAM SOUTHERN RAILROAD CO.
DRAINAGE DITCH
Drainage Ditch
Diversion Ditch
Settling Pond No. 5
Settling Pond No. 4
LOUISVILLE & NASHVILLE RR
SHEET
RESURVEY OF
COREY TERRACE
RESURVEY OF
COREY
FAIRFIELD HIGHLANDS
2ND ADDITION TO FAIRFIELD HIGHLANDS
FLINT RIDGE YARDS

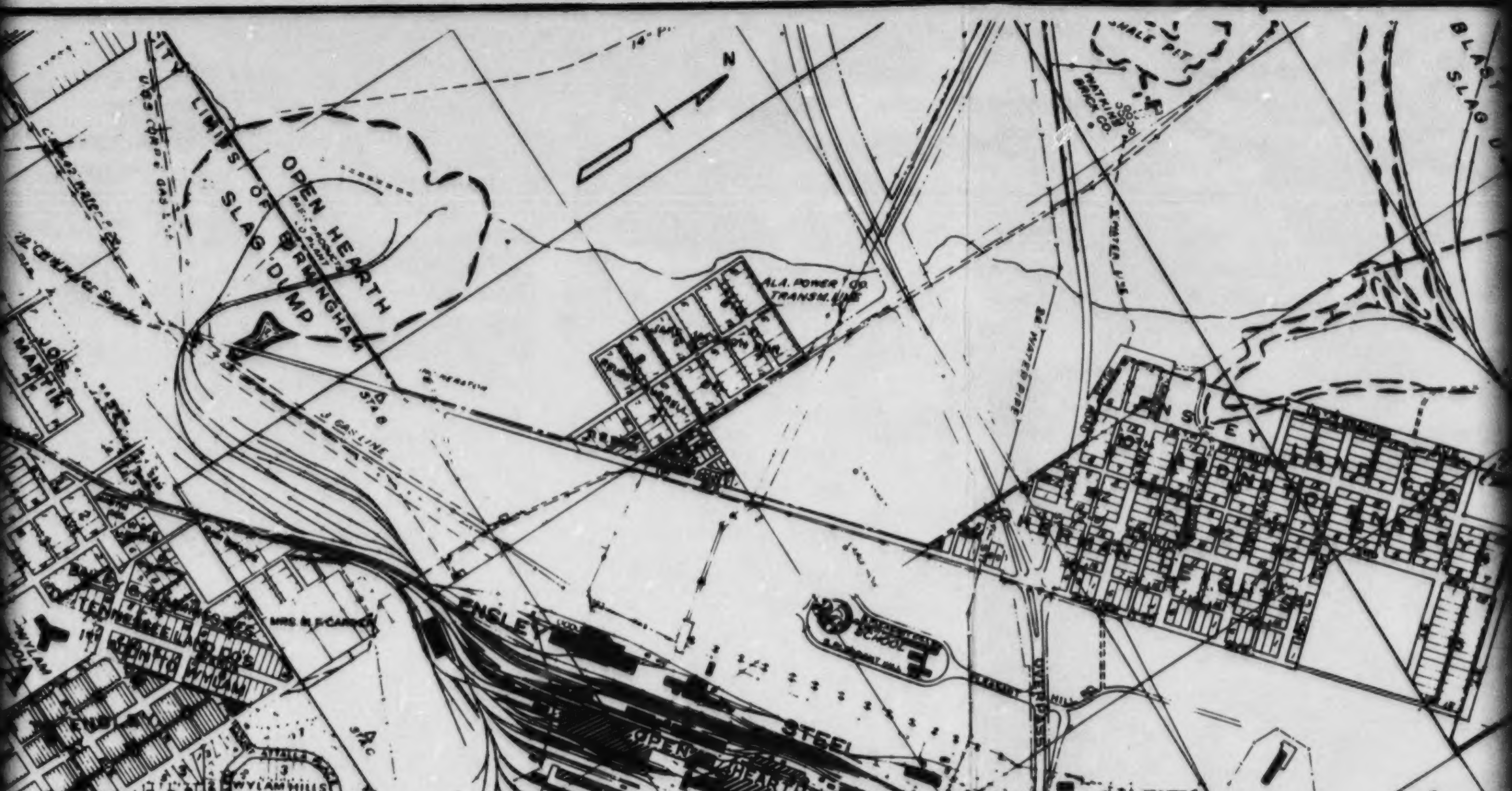
A

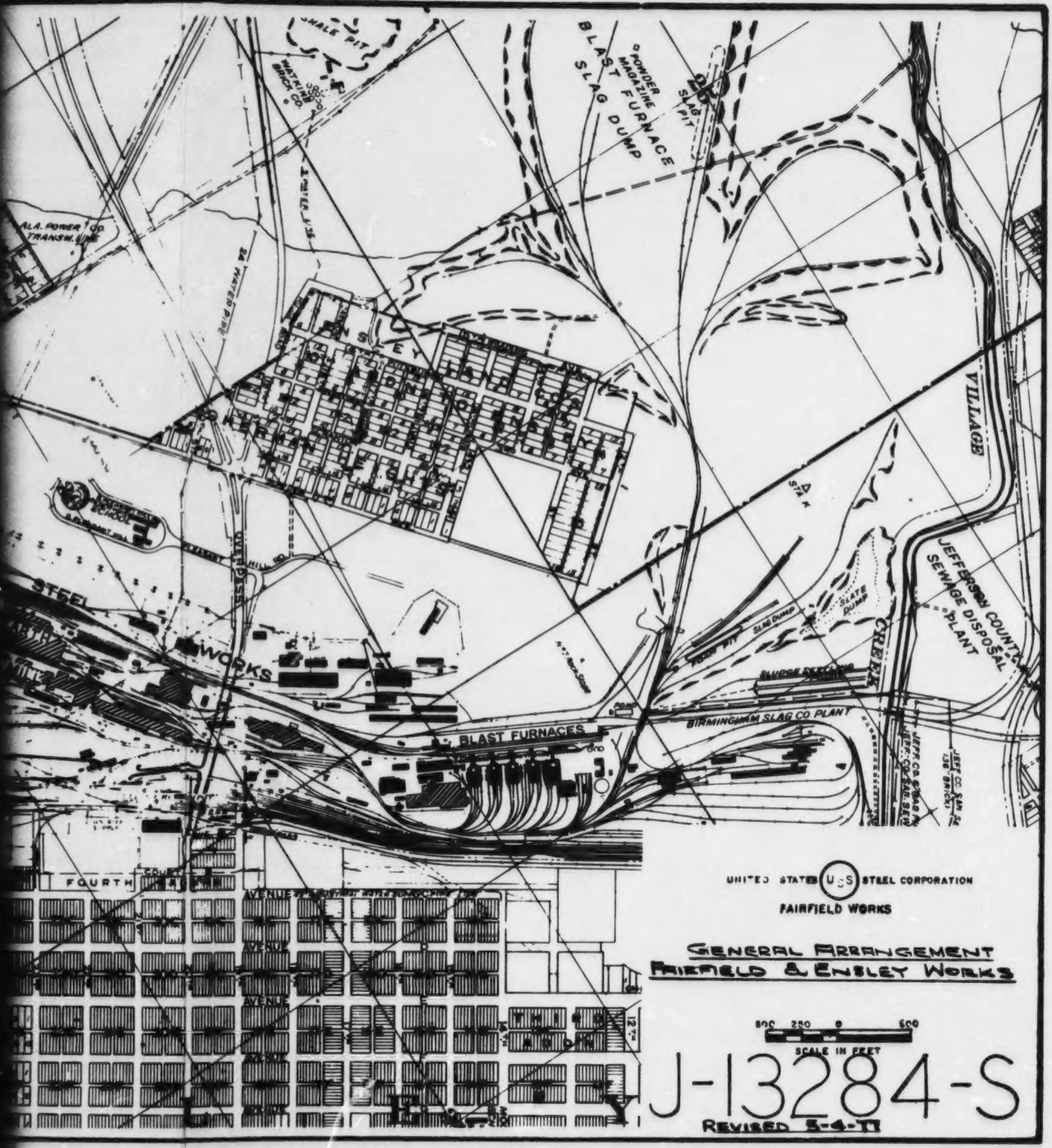

TIN MILL ROAD
COIL STORAGE
SLAB STORAGE
HECKETT ENGINEERING CO.
ELLIOTT YARDS
SLATE DUMP
SLATE DUMP
TIN MILL
PARKING AREA
PARKING AREA
COOLING TOWERS
PARKING AREA
F A I R F I E L D W O R K S
COAL STORAGE
BLAST FURNACES
COKE AND COAL CHEMICALS
PARKING AREA
WASTE TREATMENT
BIOLOGICAL WASTE TREATMENT
SHEET MILL
WASTE TREATMENT
FAIRFIELD WIRE WORKS
Opossum Valley Creek
OPOSSUM VALLEY ROAD
YARDS


SUBDIVISION
PUBLIC ROAD
PRATT LAND & IMP. CO'S RESURVEY
ADLER WEAVER ET AL
JOE MARTIN
LIMITS OF
SLAG DUMP
COLLINS & JOHNS
J. A. J. BROWN
W. J. Bullock, Inc.
THE BARRETT CO.
Park
WYLAM SCHOOL
TENNESSEE LAND CO'S
WYLAM HILLS
34th ST YARDS
COKE AND COAL CHEMICAL
Woodward Iron Co.
Roberson-Walker Stone Co.
FAIRFIELD WIRE WORKS
COMMERCE AVE
COMMERCE AVENUE URBAN RENEWAL AREA
CRAWFORD STREET
GARY AVE.
GARY
PARKWAY
FAIRFIELD PARK
AVENUE
ENSLEY
Y
A
M

1

C

N
CITY LIMITS OF BIRMINGHAM
OPEN HEARTH SLAG DUMP
SHALE PIT
SLAG DUMP
BLAST
ALA. POWER CO. TRANSM. LINE
GAS LINE
TENNESSEE LAND CO'S
WYLAM
WYLAM HILLS
ATTALLA
ENSLEY STEEL WORKS
OPEN HEARTH
RAIL MILL
BLAST FURNACES
34th ST YARDS
WASTE TREATMENT
FOURTH
AVENUE
AVE B
ENSLEY DEVELOPMENT CO'S ADDN
ENSLEY



SHALE PIT
WATKINS BRICK CO.
POWDER MAGAZINE
BLAST FURNACE SLAG DUMP
SLAG PIT
ALA. POWER CO. TRANSM. LINE
24" WATER PIPE
ENSLEY LAND CO.
SCHOOL
STEEL
WORKS
STAK
SLATE DUMP
SLAG DUMP
BIRMINGHAM SLAG CO PLANT
BLAST FURNACES
VILLAGE
CREEK
JEFFERSON COUNTY SEWAGE DISPOSAL PLANT
FOURTH AVENUE
AVENUE
AVENUE
AVENUE
12TH
ENSLEY
500 250 0 500
SCALE IN FEET

UNITED STATES STEEL CORPORATION

FAIRFIELD WORKS

GENERAL ARRANGEMENT
FAIRFIELD & ENSLEY WORKS

J-13284-S

REVISED 5-4-71

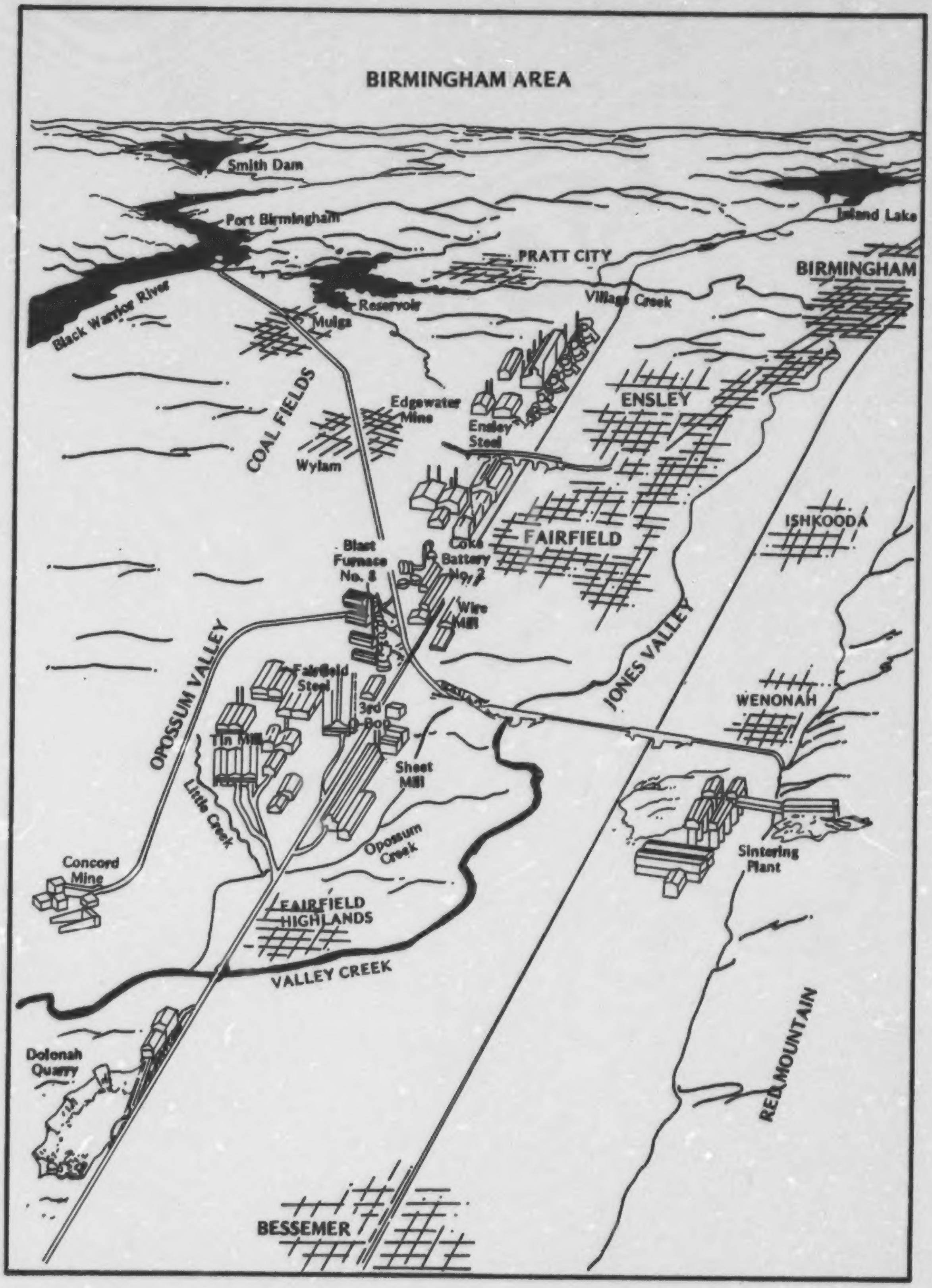

BIRMINGHAM AREA
Smith Dam
Island Lake
Port Birmingham
PRATT CITY
BIRMINGHAM
Black Warrior River
Reservoir
Village Creek
Mulga
COAL FIELDS
Edgewater Mine
Ensley Steel
ENSLEY
Wylam
FAIRFIELD
ISHKOODA
Blast Furnace No. 8
Coke Battery No. 2
Wire Mill
OPOSSUM VALLEY
JONES VALLEY
Fairfield Steel
3rd Bop
Tin Mill
Sheet Mill
WENONAH
Little Creek
Opossum Creek
Concord Mine
Sintering Plant
FAIRFIELD HIGHLANDS
VALLEY CREEK
RED MOUNTAIN
Dolonah Quarry
BESSEMER

FIG. 1-2. UNITED STATES STEEL OPERATION IN THE BIRMINGHAM AREA

5. Fairfield tin mill
    a. Pickling
    b. Cold rolling
    c. Cleaning
    d. Annealing
    e. Plating
    f. Temper rolling
    g. Side trimmers
6. Merchant mill
7. Cotton tie and hoop mill
8. Structural mill and rail products
9. Steel axles and forge shops
10. Fairfield sheet mill
    a. Shears and trimmers
    b. Cold roll finishing
    c. Annealing
    d. No. 1 continuous galvanizing
    e. No. 2 continuous galvanizing
    f. No. 4 continuous galvanizing
    g. Temper rolling
    h. Coil painting
11. Fairfield wire mill
    a. Wire drawing
    b. Wire annealing
    c. Wire galvanizing
    d. Woven fence
    e. Barbed wire
    f. Welded wire fabric mesh
    g. Nails

Ensley Operations

1. Ensley steel plant
    a. Blast furnaces (3)
    b. Open hearths (3)

    c. Primary mills (including rail mill)
    d. Iron foundry
2. Rail transportation shop
3. Roll shops division of Fairfield Works

On December 31, 1975, one of the three remaining open hearth furnaces at Ensley Operations was idled. On June 30, 1976, the remaining two open hearth furnaces were shut down.

1.4.1.2. No. 2 Coke Battery

A new 57-oven coke battery (No. 2 coke battery) is scheduled to replace existing coke batteries Nos. 3, 4, 7 and 8. EPA has designated this new battery a replacement facility. A coal preheating and charging system will be installed in conjunction with the No. 2 coke battery. A detailed description of coal handling and preparation, coal preheating, coal charging, coking, quenching and the coke by-product plant, with emphasis on emission controls and measures which will be employed to minimize emissions, is presented in the Draft EIS.

The following measures have been included in the design of the No. 2 coke battery to minimize particulate emissions:

1. Hot coal charging car with sealing capabilities to prevent blow-back.
2. Mechanical gooseneck cleaners.
3. Mud-sealing oven lids and gooseneck lids.

Doors of an improved design will be tested at other U. S. Steel facilities to determine the most effective sealing edge in reducing emissions. The most effective design will be used for the Fairfield battery. The doors which will be installed will meet a ten percent door leakage standard.

The design data for the individual ovens are as follows:

1. Number of ovens--57
2. Average oven width--18 in.
3. Oven height--20 ft, 2 in.
4. Oven height to coal line--19 ft, 2 in.

5. Effective (coal) volume--1,374 cu ft
6. Oven length--47 ft, 7 in.

Characteristics for the underfiring stack are:

1. Height above grade--350 ft
2. Inside diameter at exit--16 ft, 9 in.
3. Gas temperature at exit--500°F
4. Gas velocity at exit--660 ft/min
5. Emissions particulates in gas--94 tons/yr or 21.46 lb/hr
6. Emissions SO_2 assuming 0.5 percent sulfur in gas--454 lb/hr or 1,987 ton/yr
7. Calculations used to determine emissions for particulates and SO_2 are given in Appendix A-5 of the Technical Support Document.

1.4.1.3. Third Q-BOP Furnace

An additional Q-BOP furnace is scheduled to replace steelmaking capacity lost at Ensley with the closing of the open hearth furnaces at that facility. Completion of this Q-BOP furnace will allow U. S. Steel Corporation to maintain its 3.5 million ingot ton/yr steelmaking capacity at Fairfield Works. The third Q-BOP will be located in the same building as the other two Q-BOP furnaces.

The third Q-BOP furnace will permit the required maintenance to ensure that two Q-BOP's will consistently produce the total design capacity of 3.5 million ingot tons. Oxygen supply facilities will prevent simultaneous operation of all three Q-BOP furnaces at any time.

A detailed description of Q-BOP operation, including information pertaining to emission controls, is presented in the Draft EIS. Consistent operation of the Q-BOP shop, with implementation of Blast Furnace No. 8, will result in an increased discharge of 0.3 mgd of wastewater to the final effluent control pond.

1.4.2. New Source Features

1.4.2.1. Introduction

The new blast furnace at the Fairfield plant will be characteristic of the larger capacity, high top pressure facilities being constructed by the industry during this decade. The use of beneficiated charge has increased output as well as assisted control of the process for environmental considerations. These three products of operation--molten iron, slag, and blast furnace gas--are all of value and will be utilized.

Once in operation, the new blast furnace will require a different charge than the older operating units. The new furnace will receive coke, iron ore pellets, sinter, and flux. The iron produced by this unit is estimated to be approximately 1,825,000 tons per year, following break-in.

The No. 8 blast furnace will be located immediately north of existing blast furnace No. 7 and will occupy 13.15 acres. The new blast furnace will require a different charge than is given the other blast furnaces. This charge will consist of iron ore pellets, sinter, coke, and limestone. With the start-up of the No. 8 blast furnace, the remaining furnaces (Nos. 5, 6 and 7) will receive a more refined charge. The result should be improved performance and reliability.

1.4.2.2. Energy

In 1976, 16.57 MMBTU were required for each ton of iron produced. Implementation of Blast Furnace No. 8 and phasing out of 1, 2 and 3 will result in a total energy requirement of 14.43 MMBTU per ton, providing a savings of 2.14 MMBTU per ton of iron produced.

1.4.2.3. Design and Operational Parameters

Design Summary

1. 32-ft diameter
2. 26 tuyeres, 2 compartment tuyeres (separate nose cooling)
3. 30 psi high top pressure (maximum)
4. 77,520 cu ft working volume
5. Ratio working volume to sq ft of hearth is 96.4
6. Three stoves (total heating surface 1,993,600 sq ft)
7. 2100°F hot blast--Bloom stove burners
8. Mohr-Raco hot blast valves with automatic stove changing controls
9. 210,000 cfm @ 60 psi wind max
10. One Ingersoll-Rand axial turbo blower
11. Two 900-psi steam pressure boilers (Combustion Engineers' type)
12. Two iron notches (with provisions to remove trough)
13. Two 75-ton casthouse cranes (one 15-ton cinder running crane)
14. One cinder notch
15. Two slag pits
16. Bailey-Wurth mud guns--Woodings low profile iron notch drills
17. 5,000 tons per day (6,000 tons peak hot metal) capacity
18. Six 250-ton submarine-type hot metal cars
19. 1,110 lb/NTHM coke equivalent
20. 150 lb/NTHM flux
21. Liquid fuel injection (No. 6 fuel oil)
22. Burden mix--60 percent pellets, 40 percent sinter
23. Pellets, sinter and coke to be screened
24. Conveyer charged furnace (60-in. belt to top speed 342 fpm)

25. Cutler hammer charging control system (two directors for furnace operation linked to Honeywell 4400)
26. Stockhouse capacity (coke, 13.5 hr; sinter, 22.5 hr; pellets, 29.8 hr; miscellaneous material, 30.0 hr)
27. Stockhouse has three coke, two sinter, two pellet, four miscellaneous and two fines monolithic concrete silos
28. Koppers-Wurth-type top "no bells" (nitrogen purge), one 30-ton crane for servicing top
29. BAUMCO gas cleaning system with closed water system (Venturi type without septum valve)--both contact and noncontact water systems are recycled
30. Channel cool externally bosh and hearth
31. Underhearth is water cooled

Operational Parameters

Raw Materials Required	
Coke	950,000 tons/yr
Sinter	1,125,000 tons/yr
Pellets	1,700,000 tons/yr
Flux (Limestone)	130,000 tons/yr
Products	
Iron	1,825,000 tons/yr
Slag	600 lb/ton hot metal
Blast Furnace Gas	110 x 10^9 ACF

1.4.2.4. Material Handling

The burden to be charged into No. 8 blast furnace includes iron-bearing material, coke, and flux material. Iron-bearing material will consist of iron ore pellets and sinter. Flux material will include gravel, dolomite and limestone.

All burden materials will be delivered to the furnace complex by railroad car and transferred to the stockhouse storage silos by conveyor systems. Coke will be transmitted directly from the coke battery to the stockhouse silos by conveyors.

Pellets, coke, sinter and flux will be withdrawn from the stockhouse silos by vibrating pan feeders and placed on belt conveyors. Pellets, coke and sinter will be screened as the material comes from the respective belt conveyors and deposited into weight hoppers. The weight hoppers will discharge directly onto another conveyor. Coke will be screened to remove minus 1/8-in. material. Minus 1/4-in. material will be removed from the pellets and sinter. Conveyors will transfer these materials to storage silos.

A dust collection system will be utilized to collect dust that is generated when pellets, coke and sinter are screened. The system consists of dry collection baghouse units in the stockhouse which are connected by ducts to hoods positioned over each screen. Dust accumulated in the collection units will be deposited in the storage silos along with the materials removed by the screens for disposal by railroad car.

1.4.2.5. Waste Generation

1.4.2.5.1. Blast Furnace Gas Emission Summary

Raw Gas

50 lb dust/ton iron
125 tons/day dust (173.6 lb/min)
Moisture - .004 lb H_2O/cu ft
Temperature - 350°F-500°F
Pressure - 4 to 30 psig

Dustcatcher

37.5 ton/day (52.1 lb/min) or 30 percent of total dust removed

Gas Entering Scrubber

Moisture - .004 lb H_2O/cu ft

Temperature - 350°F-500°F

Pressure - 4 to 30 psig

87.5 tons/day dust (121.5 lb/min), 3 to 4 grains/scf

Flow - 149,000 to 297,000 scfm

Gas Composition - 26 percent CO, 14.4 percent CO_2, 1.6 percent H_2, 58 percent N_2

Clean Gas to Plant Gas Main

Moisture - 2.35 grains/scf

Dust Loading - .005 grains/scf (maximum)

Temperature - 100°F

Pressure - 20 in. H_2O in plant main and 85 in. H_2O in Blast Furnace No. 8

1.4.2.5.2. Wastewater Treatment System Summary

Slurry Water (gas vessel to spiral classifier)

Dust Content (solids) - 2,180 ppm

Sp. Gravity (solids) - 3.5 to 4.5

Flow - 6,600 gpm

Temperature - 140°F (maximum)

Discharge from Spiral Classifier

1.0 ton/day solids

Slurry H2O (influent to thickeners)

3,300 gpm normal (per thickener)

6,600 gpm maximum to one 80-ft thickener

In - 2,180 ppm suspended solids

Out - 50 ppm (long-term average) normal

Cationic Polymer Feed - 5 ppm

Anionic Polymer Feed - 1 ppm

Sludge (thickener underflow) to Vacuum Filters

Solids - 35 to 50 percent by weight

Specific gravity (solids) - 3.5 to 4.5

Vacuum Filter Discharge

Solids - 75 percent (minimum) by weight, 88.6 tons/day

Through Cooling Towers

Evaporation - 120 gpm (each)

Influent Temperature - 140°F (maximum)

Effluent Temperature - 90°F (maximum)

Blowdown (intermittent to plant treatment including final effluent pond)

Flow - 430 gpm, 125 gal/ton iron

Long-Term Average Concentrations - Suspended Solids, 50 ppm; Cyanide (total), 15 ppm; Phenol, 1.0 ppm; Ammonia (as NH_3), 62 ppm

1.4.2.6. Solid Waste

Solid waste management for the existing facilities utilizes reuse and reclaiming operations and disposal in landfill operations. Operation of the new No. 8 blast furnace and related facilities will not result in a significant addition of solid waste and present solid waste management practices are expected to continue following implementation of the proposed modernization program.

1.5. EXISTING ENVIRONMENT AND PROJECTED ENVIRONMENTAL IMPACTS

1.5.1. Air Quality

1.5.1.1. Existing Air Quality

A review of the data developed by the end of 1977 indicates that Jefferson County's primary air quality problem is suspended particulate matter in the atmosphere and photochemical oxidants. The areas with the highest total suspended particulates (TSP) concentrations center around the North Birmingham-Tarrant City area as well as much of the Leeds area. Jefferson County has recommended that the more intensive developments including industrial, commercial, and residential land uses be encouraged within "cleaner" areas. In addition to particulates, other pollutants currently measured in Jefferson County include sulfur dioxide, carbon monoxide, nitrogen dioxide, and total nonmethane hydrocarbons, all of which meet Ambient Air Quality Standards according to the Jefferson County Board of Health.

General trends over the past four years (1971-1975) indicate that there have been substantial reductions in both total and point source emissions. The total point source emissions in 1971 were 151,321 tons per year which is 93.5 percent of the total emissions, but by 1975 there was a 62 percent reduction achieved and the point source emissions were down to 57,180 tons per year.* It was evident from the data provided by Jefferson County that these reductions in total point source emissions were still continuing in the years 1976 and 1977, but the running averages of TSP obtained at the Jefferson County monitoring stations are not significantly different than the Air Quality Standards in 1977. To obtain a plan for attainment for 1977 and maintenance of air quality standards in Jefferson County both the state and county programs have been assigned tasks to analyze and define the additional control requirements necessary to achieve the Federal Air Quality Standards.

---

*Annual Progress Report of Jefferson County Health Department, October 1975 - September 1976.

As a result of the measured violations of Federal Primary Ambient Air Quality Standards for TSP and photochemical oxidants, the U. S. Environmental Protection Agency designated those portions of Jefferson County within central Birmingham and Leeds and the entire County as non-attainment areas for TSP and photochemical oxidants, respectively, and thus the schedule established by the State is for the development of non-attainment SIP revisions.

1.5.1.2. Impacts on Air Quality Associated with the Proposed Action

An air quality dispersion model was employed in the prediction of ambient air quality conditions as a result of the proposed action by the U. S. Steel Corporation. A detailed analysis has been provided in the Technical Support Document to the Draft EIS. By predicting particulate concentrations at monitoring stations, it was found that a reduction of 63 percent would occur as a result of the U. S. Steel modernization program. The 63 percent reduction is believed to be of the correct order of magnitude; however, there may be limits to and inadequacies in the model. Because of these limits to and inadequacies in the model, the magnitude of the numbers projected by the model must be considered with caution. These inadequacies are discussed in detail in the Draft EIS. Based on the total suspended particulate and analysis, it is concluded that implementation of the proposed action will have a positive impact on the air quality of the surrounding community.

No attempt was made to model pollutants other than total suspended particulates. However, based on past and projected emission rates for sulfur dioxide (SO_2) and an analysis of the proposed process modification and replacement facilities, it is anticipated that ambient SO_2 and hydrocarbon concentrations will not increase as a result of the proposed action. The U. S. Steel Corporation is presently in compliance with appropriate emission regulations concerning SO_2.

As part of the March 31, 1978, settlement agreement with the Alabama Air Pollution Control Commission, the State of Alabama, the Jefferson County Board of Health, the United States of America, and the Administrator of the EPA, U. S. Steel Corporation must submit a hydrocarbon offset to the Jefferson County Department of Health for the preheater and related coke battery facilities. This hydrocarbon offset will be available for review by the public at the Jefferson County Health Department prior to the start-up of the preheater. There will not be a substantial environmental impact as a result of the proposed action from the standpoint of pollutants other than total suspended particulates, providing the hydrocarbon emissions can be reduced to an acceptable level.

1.5.2. Water Quality

1.5.2.1. Existing Water Quality

As a result of the comprehensive water quality surveys performed on Opossum, Valley, Village Creeks, and Bankhead Reservoir, an accurate description of the water quality conditions occurring during the period of the survey was obtained as presented in detail in the Technical Support Document to the Draft Environmental Impact Statement.

The results of the water quality surveys on Opossum and Valley Creeks reveal that pollutants enter these streams from both point and non-point source activities. Dissolved oxygen concentrations upstream of the confluence of Opossum/Valley revealed oxygen deficits (indicating some biological activity). It must be indicated that the biological surveys revealed that only limited biological activity occurs in either of these streams. After the junction of the two streams, dissolved oxygen deficits and/or BOD data indicate continued biological activity and a high reaeration potential.

Generally, Opossum and Valley Creeks must be characterized as streams conducting large quantities of organics and nitrogenous compounds capable of consuming significant quantities of oxygen. The contribution of pollutants to these receiving streams results from point and non-point source discharges.

Existing conditions occurring on Village Creek can be characterized by streams conducting large quantities of organic and nitrogenous oxygen-consuming materials with a substantially lower impact on dissolved oxygen deficit due to the presence of inhibitory materials. Dissolved oxygen concentrations measured on Village Creek were low (approaching 0 mg/l) in certain portions of the stream upstream of Bayview Lake.

Surveys were conducted on Bankhead Reservoir to establish existing water quality conditions and to evaluate the influence of Village and Valley Creeks on Bankhead Lake. The majority of contaminant concentrations in Bankhead Lake were found to increase below the confluences of Village and Valley Creeks. However, high concentrations of zinc and iron were measured upstream of the confluence with Village Creek in Bankhead Reservoir. The pollutants observed in Village and Valley Creeks are substantially diluted by the larger receiving body. The dissolved oxygen levels were not reduced below 7.1 mg/l during any of the measurements of surface water taken in this investigation.

In summary, it appears that Opossum, Valley, and Village Creeks all are substantially influenced by point and non-point discharges in the Birmingham area. The poor water quality conditions occurring in each of these receiving streams will preclude the accurate projection of improved water quality conditions and discharge levels. It further appears that the contaminants being discharged to Village, Valley, and Opossum Creeks influence these streams throughout their entire length and contribute substantially to the pollution load occurring in Bankhead Reservoir.

1.5.2.2. Impacts of the Proposed Action on Water Quality

For the purpose of this discussion, it has been assumed that only the blast furnace is considered as a new source and, therefore the wastes from that source will be addressed with regard to their influence on environmental impact. Based on the analysis presented herein, it does not appear that small alterations of any dischargers to these streams will cause a significant improvement, or degradation of the existing water quality. It should be emphasized that not only point source, but non-point source discharges, which are substantially more difficult to control, contribute to the poor water quality conditions presently existing in Opossum and Valley Creeks.

In considering the future conditions with the proposed action, the waste discharges contributed to receiving streams will be shifted with regard to U. S. Steel's facilities. The present discharges on Village Creek will be reduced substantially and some increase in discharges to Valley Creek through Opossum Creek will occur. The proposed action will reduce U. S. Steel Corporation discharge to Village Creek as follows: 13.0 lb/day of cyanides; 1.8 lb/day of phenols; 103 lb/day of ammonia; and 1,668 lb/day of suspended solids. The future conditions on Opossum and Valley Creeks with construction of the new blast furnace will result in increased loadings as follows: suspended solids increase 130 lb/day; cyanides increase 1.3 lb/day; phenols increase 2.6 lb/day; and ammonia increases 52 lb/day (based on BATEA effluent limitations).

The impact of the proposed action on Village Creek will be to reduce the contributions of pollutants from the U. S. Steel facility. As discussed for Valley Creek, a measurable alteration of the environment probably will not occur as a result of the proposed action. Similar comments apply to an improvement in water quality conditions as a result of reduction in waste load discharges by U. S. Steel to Village Creek. Considering the large quantities of contaminants entering Village Creek as a result of other point and non-point sources, the final accurate prediction of improved water quality conditions must be questioned. Nevertheless, it is appropriate to indicate that some improvement to the backwaters of Bayview Lake will accompany the improvement in the reduction of waste load discharges to Village Creek from municipal facilities as well as U. S. Steel Corporation. The resulting improvement below Bayview Lake is dependent on the lake recovery which may not occur (for an extended period of time) even if all contaminants cease to be discharged to this reservoir.

An indication of the impact of the new blast furnace on the water quality in Valley Creek at BAT levels of treatment can be obtained from a water quality model of Valley Creek. According to the model predictions the blast furnace will decrease the dissolved oxygen in the river at the critical point by approximately 0.12 mg/l, increase the ammonia nitrogen concentration by approximately 0.1 mg/l, increase the phenol concentration by 0.012 mg/l and increase the cyanide concentration by 0.001 mg/l at the 10-year seven-day low flow condition.

It must be kept in mind that these predictions are made based on the assumption that all biological decay rates will remain constant and that changes in the nature and level of waste loads to the river have no effect on the kinetics of the biological processes taking place in the river. However, significant changes in the nature and amount of the waste being discharged to Valley Creek will take place. The discharge of materials known to be inhibitory to biochemical oxidation will be substantially reduced from the U. S. Steel discharge and there will also be a substantial reduction in the amount of oxygen demanding material. At the same time, it is expected that the discharge from the Valley Creek Sewage Treatment Plant will approximately double in volume and that the concentration of oxygen demanding material in the waste will also increase as the plant is brought up to its designed capacity. In light of the radical changes that are expected in the wastes discharged to Valley Creek it can be anticipated that there will be changes in the biological kinetics affecting the water quality of Valley Creek. Exactly what this effect will be, however, cannot be determined with present technology.

1.5.3. Biology

Since the new source will be located on an existing industrial site, development of a comprehensive biological inventory for the plant site was not pertinent. The location of the site was examined, however, with respect to the possible overlap of the site with the range of any rare or endangered species of terrestrial and aquatic flora and fauna. In addition, field studies were conducted in order to determine the status of the aquatic communities associated with those streams impacted by the proposed action, viz., Opossum Creek, Valley Creek, Village Creek, and Bankhead Reservoir. The results of the investigations are discussed in detail in the Draft Environmental Impact Statement and the Technical Support Document, and support the conclusion that all of the above streams are stressed from a biological standpoint.

During the course of the biological evaluation several indices, e.g., diversity indices, autotrophic indices, and recovery indices, were developed for use in impact projection. The results of the recovery index analysis reveal that Opossum Creek, Village Creek and Valley Creek all have a poor chance of rapid recovery. This is the case with or without the new blast furnace.

1.5.4. Socio-Economic Considerations

1.5.4.1. Existing Socio-Economic Conditions

Basic trends in economic activity and population growth in the Birmingham area have been influenced by the region's historical development and progress. The early years were influenced by the metal processing industries. Therefore, the early economy and its attendant life-styles have carried over into the present time, still substantially dependent upon steel production and its related activities.

The major foundation of Birmingham's economy is its dependency on extractive industries and directly related activities. Investments in production facilities have resulted in an increase in the skilled and managerial labor force; however, future growth will depend more heavily upon the area's public and private institutions. The public and private sectors will focus attention which will broaden and diversify the economic base.

Birmingham's metals facilities have historically provided a significant portion of southern steel production. In 1920, 86 percent of southern steel production was produced in Birmingham.

In 1940, Birmingham produced 77 percent of southern steel. From 1940 to 1970, steel production in Birmingham remained fairly stable; however, total steel output in the United States has increased. This has resulted in Birmingham's decrease in the percentage share produced nationwide. Nationwide, steel capacity increased less than 10 percent between 1960 and 1975.

To simulate the economic impacts to the region of not implementing the proposed modernization, a 50 percent decline in regional steel production was assumed (Birmingham Regional Planning Commission). A total 1980 steel and iron products value is estimated at $738,469,000; therefore, a 50 percent reduction would reflect an output decline of $369,235,000. This would associate with a decline of 11,234 employees and a payroll loss of $127,854,000 based on an annual salary of $11,381 per employee. In terms of disposable personal income, $102,411,000 is available for spending ($95,242,000 for personal consumption expenditures; $7,169,000 for housing). Total projected decreases are thus:

(1973)	Personal Consumption Related	$102,411,000
	Decreased Steel Production	369,235,000
(1973)	TOTAL DECREASE	$471,646,000

The impacts of this decline in steel production on other sectors in the overall regional economy are discussed in the Draft Environmental Impact Statement.

1.5.4.2. Impacts of the Proposed Action on Socio-Economic Conditions

The extractive industry and its attendant activities comprise the major foundation of the economy of Birmingham and Jefferson County, Alabama. This economy is substantially dependent upon steel production and related activities. Projections of future growth for the Birmingham area by local and state planners rely heavily on assuming continuing growth of the iron and steel industry.

U. S. Steel is the primary influence in Birmingham's metal facilities. Due to the fact that in 1975 the U. S.'s share of world steel production was only 16.3 percent, an additional 35 million tons are needed by 1980. In order to maintain its existing production, U. S. Steel proposes construction of a new blast furnace. This will enable certain antiquated facilities to be phased out. An estimated increase of 600,000 tons per year of steel will be produced at the new facilities.

To assess impact to the economy, certain estimates must be made. An estimate of regional output of iron and steel products for 1980 dollar-wise is $738,469,000 (Birmingham Regional Planning Commission Batelle-Columbus Laboratories, 1976).

Other estimates of types of direct changes to consider are assumption of:

1. A decrease in the regional output of iron and steel products.
2. A decrease in personal consumption spending as a result of decreased payrolls.

At the present time, the economy of Birmingham area is healthier than at any previous time. To continue this trend, proper balances must occur in employment diversification. Any major decline in expected expansion of any of these areas could result in higher rates of unemployment. The only adverse impact would be a reduction of 22 employees assuming installation of blast furnace No. 8. This is an insignificant effect on the overall economy. Details concerning this evaluation can be found in the Technical Support Document.

1.6. ALTERNATIVES

1.6.1. Build or No Build

From the turn of the century until the early years of this decade, all of the steel which was produced at what is now Fairfield Works was produced by the open hearth process. Nine furnaces were built at Ensley, and later, twelve furnaces were built at Fairfield. Four of the Ensley furnaces were permanently shut down in 1962. As production rates increased through improved technology, environmental concerns heightened. The emissions from these furnaces became a matter of great concern to the public and to U. S. Steel.

Due to obsolescence, it was quite clear that the years of the Ensley open hearths were limited. The solution to the emission problem at the remaining furnaces at Ensley had to be replacement facilities or a permanent discontinuance of operations as the cost of control equipment could not be justified in view of their limited remaining life.

At Fairfield, a decision was made in 1971 to install precipitators on the 12 open hearth furnaces, but the advent of a new steelmaking technology -- the Q-BOP furnace -- brought about the decision to replace the 12 Fairfield furnaces with a two-furnace Q-BOP facility, which provided control of steelmaking emissions at Fairfield.

A decision on shutting down the Ensley open hearths without replacing the capacity was separately addressed. If the Ensley open hearths were to be shut down without replacement, it would result in a 25 percent loss in steelmaking capability; the future of this plant would have been uncertain, and the effect on the community would have been severe. It is indisputable that a loss in steelmaking capability would not complement and respond to the well documented economic growth in the steel market in the South. Studies portrayed the opportunities available to U. S. Steel in maintaining its steelmaking capability in the market area served by the Southern Steel Division, and U. S. Steel moved forward with plans for new facilities to permit continued production of raw steel required for operation with Ensley's open hearths shut down. This assured the future of Fairfield Works as a major steel-producing facility, a matter of great significance to Birmingham, to Alabama, and to the South. This decision on the part of U. S. Steel Corporation would make Fairfield Works a modern, competitive steelmaking operation.

1.6.2. Capacity Alternatives

Given that the open hearth furnaces at Ensley would be shut down, at least nine alternatives were studied to maintain steel production at Fairfield Works. Economic considerations dictated facility replacement in preference to installation of emission control equipment on existing furnaces. In October, 1974 after the start-up of the Q-BOP furnaces, a new plan was finalized which would displace both blast furnaces and open hearth operations at Ensley. This plan included a third Q-BOP furnace, teeming facilities, new soaking pits and a new blast furnace at Fairfield.

1.6.3. Process Alternatives

The blast furnace is the only available process for producing molten iron, the principal feed stock for a Q-BOP furnace. Therefore, no process alternatives were investigated.

1.6.4. Site Location Alternatives

The new source, No. 8 blast furnace, is a support facility for steelmaking operations at Fairfield Works, replacing three existing blast furnaces at Ensley. Its site location can be explained easily and categorically with respect to locating it at another southeastern location, another location some place else in the country, or at a Greenfield site. The advantages to locating the new blast furnace at the Fairfield Works site are numerous and include the availability of raw materials and ready access to major transportation routes. The Fairfield Works site meets all necessary criteria for industrial development, e.g., slope and topography requirements, geologic and soil requirements, access to utilities, etc. Furthermore, the new blast furnace is needed to maintain steel production for the southeastern market and must necessarily be located in close proximity to other components of iron and steelmaking, e.g., coke batteries, Q-BOP's, etc. Fairfield Works is the only fully integrated iron and steelmaking complex in the South.

The new blast furnace is to be located on the same baseline and north of existing blast furnaces at Fairfield Works. These existing furnaces are numbered 5, 6, and 7, from south to north. By situating the new furnace here, it will be sequentially numbered and known as "No. 8 blast furnace."

Because the existing coking operation lies close by, this is the most advantageous location for a new furnace from the standpoint of handling coke, which is one of the principal feedstocks for a blast furnace. Also, this is the only area contiguous to the existing blast furnace operation where there is available land for constructing a new furnace and its auxiliaries. For this reason, no other local sites were seriously evaluated.

1.6.5. Wastewater Treatment

The No. 8 blast furnace, as a new source, is required to meet New Source Performance Standards (NSPS) identified as Best Available Demonstrated Control Technology (BADCT). The NSPS identified for a blast furnace are the same as Best Available Technology Economically Available (BATEA) and, consequently, the BADCT and BATEA effluent limitations are identical. All of the Phase I guidelines pertaining to a steel industrial category, including all guidelines pertaining to a blast furnace, have been remanded by the courts. Therefore, the effluent limitations appropriate to BADCT for a blast furnace could change.

A methodology for wastewater treatment, utilizing modification and optimization of processes and existing treatment facilities, has been selected by the U. S. Steel Corporation in accordance with the assumption that the NPDES permit for Fairfield Works will be revised to include the existing allocations, plus the BADCT allocations for a new blast furnace. An alternative methodology would be BATEA as originally defined to consist of BPT (Best Practicable Technology) plus treatment of cooling tower blowdown via alkaline chlorination, pressure filtration, carbon adsorption, and neutralization.

1.6.6. Emission Controls

Coke, pellets and sinter, as well as quantities of other materials are transferred to the blast furnace by conveyor belts and stored in silos. Screening occurs prior to injection of properly sized materials to the blast furnace and produces emissions which are controlled. Wet scrubber systems, precipitators or baghouses could be employed. Scrubbers were not selected because of the addition of moisture which would require dewatering facilities and additional energy requirements. Baghouses were selected because they were equivalent technology to other particulate emission control techniques. The material captured by the baghouse and fines from a screening operation were all transferred to a silo. A transfer from the silo to the transportation vehicle is also controlled using water sprays for dust suppression. The properly sized material is transferred from the silos to the collection belt which is a final process prior to injection into the blast furnace. Belts handling sinter pellets and coke receive emission control through the same baghouse previously described for the screening operation. Therefore, alternatives described under that technique apply here as well.

Emission control alternatives to those selected for the No. 2. coke battery and third Q-BOP are discussed in detail in the Draft Environmental Impact Statement.

1.7. MEASURES TO MITIGATE ADVERSE ENVIRONMENTAL IMPACTS

1.7.1. Construction Impacts

Temporary adverse impacts to air and water quality will result from construction of the new No. 8 blast furnace.

Clearing, grubbing, and earthmoving can result in the creation of a local dust problem. Truck traffic, which is anticipated to involve 15 percent of the materials required for construction, will generate additional dust. Roads were watered to mitigate impacts resulting from dust generation. Due to a policy of road paving, slagging, or oiling, and the remoteness of the construction site from any public area, the possibility of dust problems off-site is seen as minimal.

Dams were built to control drilling mud runoff. Stormwater drainage from the construction site will be handled by the plantwide drainage system. It will be concentrated by pre-existing equipment and given primary treatment to minimize the effect on Opossum Creek.

1.7.2. Operational Impacts

1.7.2.1. Air Quality

The following summary presents those emissions control devices and process improvements which will be implemented to mitigate adverse impacts to air quality as a result of operation of blast furnace No. 8.

No. 8 Blast Furnace

1. Material handling - Six separate baghouses with separate fans.
2. Unloading and transferring - Liquid type dust suppression system.
3. Clean gas flare stack - With twin burner heads to control pressure in blast furnace gas distribution main.
4. Dustcatcher, reverse flow type - Large particles drop out due to sudden change in direction and decreased velocity.
5. Venturi scrubbers - For cleaning and cooling blast furnace gas.
6. Seal valves above and below top hopper - Two hoppers used alternately and pressurized with nitrogen.

In addition, the following emission controls and process improvements will be implemented to mitigate adverse impacts to air quality as a result of operation of the third Q-BOP and the No. 2 Coke Battery:

Third Q-BOP

1. Drop-out doors - Large particles are allowed to drop out of gas cleaning system.
2. Venturi scrubbers - Gas cleaning and cooling.
3. Flare stack - To burn CO in gas before releasing to atmosphere.
4. Furnace enclosure - To capture emissions during blow.
5. Secondary hood - To capture emissions during turndown, charging, etc.
6. Charging doors - Equipped with air seals and water seals to prevent dust escape.
7. South mixer - Fume control system.

No. 2 Coke Battery

1. Coke and coal preparation - The following units are equipped with baghouses:
   Three 10,000-ton silos
   Pulverizer building
   Mixer
   100-ton bin
   Secondary pulverizer
   Coke transfer station
   Belts A26A and A26B
2. Wet scrubber - Premetering bin.
3. Quench tower and baffle system.
4. Venturi scrubbers - Preheaters, clean exhause gas.
5. Pushing controls - One spot quench car with venturi.
6. Improved charging cars.
7. Improved doors.

In general, the entire modernization program, including the construction of No. 8 blast furnace, the third Q-BOP, and Coke Battery No. 2, constitutes the replacement of existing facilities having high air emissions in an attempt to mitigate adverse air impacts.

1.7.2.2. Water Quality

Adverse impacts to water quality as a result of operation of blast Furnace No. 8 will be mitigated by the implementation of a wastewater management system which utilizes modification and optimization of processes and existing treatment facilities.

CHAPTER 2
TRANSCRIPT OF PUBLIC HEARINGS

PUBLIC HEARING

U. S. ENVIRONMENTAL PROTECTION AGENCY

REGION IV

JUNE 15, 1978

The transcript of the proceedings heard in the Cudworth Hall, Engineering Auditorium, University of Alabama, Birmingham, Alabama, commencing at 7:00 p.m. the 15th day of June 1978.

-oOo-

ATLANTA REPORTING COMPANY, INC.

CONTENTS

	Page
Transcript of the Proceedings	3
Agenda of Hearing	26
Joint Public Notice	27
Fact Sheet	29

-oOo-

P R O C E E D I N G S

MR. PERRY: Good evening, and welcome to this public hearing. My name is Charles Perry, and I am the acting Regional Counsel for EPA, United States Environmental Protection Agency, Region IV, in Atlanta, Georgia. The Regional Administrator of Revion IV, Mr. John C. White has designated me to conduct this hearing here tonight. With me here on the panel to my right is Mr. John Hagan, who is Chief of the EIS Branch for Region IV, and to my left is Mr. Jim Patrick, and he is the Chief of the Compliance Section of the Water Enforcement Division.

The National Environmental Policy Act of 1969 requires an agency of the Federal Government to prepare an Environmental Impact Statement whenever the agency proposes to take federal actions significantly affecting the quality of human environmen. Tonight's hearing is concerned with possible actions by EPA with respect to the No. 8 blast furnace, a new facility at the Fairfield Works of -- proposed by United States Steel Corporation.

United States Steel Corporation has applied to EPA for modification of their existing National Pollutant Discharge Elimination System permit for this facility. We will refer to that system tonight as the NPDES permit.

The issuance of the modification to their permit for the No. 8 blast furnace is a federal act, requiring compliance with provisions of The National Environmental Policy Act pursuant to

Section 511 of the Clean Water Act of 1977. Accordingly, EPA has commissioned the preparation of an Environmental Impact Statement for this facility. The draft of this statement has been prepared. The notice of its availability was published in the Federal Register, Volume 43, number 94, page 2,862, dated May 15, 1978.

This hearing is for the purpose of receiving comments on the draft Environmental Impact Statement, and the proposed issuance of the modifications to the National Pollutant Discharge Elimination System permit for U. S. Steel. Although no decision has yet been made, EPA tentatively proposes to issue the modifications to the NPDES permit. The proposed modifications to the NPDES permit contains limitations on the amounts of pollutants allowed to be discharged into the waters of the United States, and was drafted in accordance with the provisions of the Clean Water Act of 1977, and all the lawful standards and regulations.

The explicit goal of this act, which we'll refer to as the Clean Water Act, is the elimination of discharge of pollutants into waters of the United States by 1985. To achieve this goal, EPA or the states, if they have received the NPDES authority, will issue permits to wastewater dischargers, setting limits and controls on the discharge of pollutants. The act requires very strict limits to be imposed when new sources, such as the United States Steel No. 8 blast furnace which we are concerned with

ATLANTA REPORTING COMPANY, INC.

here tonight.

Once the permit is issued, the discharger is legally bound to meet its requirements, and any violation may subject the permitee to criminal and civil penalties.

Mr. James Patrick of the Water Division of EPA Region IV -- the Enforcement Division of EPA Region IV, excuse me -- will discuss the NPDES permit for the facility later this evening. The pollutant limits and other conditions of the draft permit are tentative and open for comment.

All comments made here tonight or submitted in writing within the next two weeks will become part of the administrative record concerning this facility. The information in the record will be used to determine the environmental compatibilit of the permit issuance and, if appropriate, to prepare a final NPDES permit. This permit would be included in the final Environmental Impact Statement.

In addition, you should be aware that all the subsequent comments on the No. 8 blast furnace and the draft Environmental Impact Statement, whether received here tonight and transcribed for the record or submitted at a later date, will be summarized and addressed in the final Impact Statement.

Mr. Russ Todd, the EIS Project Officer for this EIS will now present a description of the EIS process for this project.

MR. TODD: Good evening. I am Russell Todd, EPA Project Officer for the Environmental Impact Statement (EIS) on the proposed United States Steel Corporation No. 8 blast furnace. The National Environmental Policy Act requires that the responsible federal official prepare a statement of environmental impact (known as an EIS) for all major federal actions significantly affecting the quality of the human environment. The purpose of the EIS is to provide government agencies and the public with information to insure appropriate environmental impacts are considered in the decision making process on federal actions.

EPA's authority to prepare an EIS is stated in Section 511 part C of the Federal Water Pollution Control Act as amended, 1972. Two actions by EPA under this act are defined as major federal actions, one of these is the issuance of a new source water discharge permit. For these actions, the responsible official, in this case the Regional Administrator, must determine if the potential for significant impacts exists. If so, then an EIS must be prepared. In the case of the United States Steel Corporation No. 8 blast furnace, the issuance of the new source NPDES permit has been determined to significantly affect the quality of the human environment.

The EIS preparation process utilized what we call the Third Party concept. The United States Steel Corporation nominated Associated Water and Air Resources, Inc. to be the environmental consultant. EPA reviewed and subsequently approved this firm on their objectivity and qualification. Associated

Water and Air Resources, Inc. was retained by the United States Steel Corporation; however, EPA directed the consultant in the preparation of the EIS. EPA retains responsibility for the content of the EIS.

Briefly, I would like to explain the format of the EIS. The magnitude of the proposed project required a detailed assessment of many potential areas of impact. The preliminary draft was too bulky and complex for general distribution. Therefore, a Draft EIS was developed by summarizing the three volume Supporting Report. This procedure is consistent with recent Council on Environmental Quality directives to reduce paperwork and make EIS's more readable.

The draft EIS presents a general discussion of the background for the U.S.S.C. modernization program and of their existing facilities. The environment is described as it is today and how it would be with and without the proposed project. Alternatives are discussed for capacity, site location, wastewater treatment and air emission control. Because of the existing water quality in Opossum and Valley Creeks and the fact that Birmingham has been declared to be in a non-attainment area for particulates in air, the draft EIS emphasizes the impacts to the streams receiving the treated wastewater and to the air emissions from the proposed project. The draft EIS contains a section on mitigative measures. Our efforts in this regard are not completed until we have your comment. Your suggestions in this matter will be given careful consideration.

It should be understood that this draft impact statement represents EPA's assessment of the project and proposed action. The decision has not been made regarding permit issuance. That decision will be printed in the final EIS. Your comments on this decision will likewise be given careful consideration. Please be specific in your comments to the extent possible. Any comments you may have on improvements to the format or content of the EIS would also be appreciated. EPA desires to make the EIS process responsive to the public.

The draft EIS was made available to the public on May 12, 1978. The commenting period on the Draft EIS will officially close June 29, 1978. Comments received by that date will be considered as if they had been presented here tonight. The mailing address for comments is on the bottom of your agenda.

Scheduling is difficult, but I anticipate having the final impact statement available by late summer. Material contained in the Draft Impact Statement will not be published again in the final. It will be included by reference only. The final EIS will consist of the Agency's statement of findings, the decision on the water discharge permit, any pertinent additional information or evaluations developed since publication of the draft, substantive comments and Agency responses and the transcript of this hearing.

For those persons who have not received a copy of the

Draft EIS, a limited number will be available at the registration desk.

Thank you for your attendance here tonight.

MR. PERRY: Thank you, Mr. Todd. I would now like to recognize Mr. James Patrick as the Chief of the Compliance Section of the Water Enforcement Branch who will present a statement on the modification of the NPDES permit.

MR. PATRICK: I've presented a copy of my statement to the reporter to be entered in the record. My name is James R. Patrick, Jr. I am Chief of the Compliance Section, Water Enforcement Branch, Environmental Protection Agency, Region IV, Atlanta, Georgia. The EPA proposes to modify permit number AL0003646 issued to United States Steel Corporation for its operation in Fairfield, Alabama, to allow for additional discharges of pollutants to Opossum Creek which will result from the operation of a new No. 8 blast furnace.

The permit which we are proposing to modify was issued on June 23, 1977. At that time, the construction of No. 8 blast furnace was well under way and the preparation of the Environmental Impact Statement for which this hearing is concerned was being prepared. Since the new No. 8 blast furnace had been identified as a new source in accordance with Title 40, Chapter 1, part 6, appendix A of the Code of Federal Regulations pertaining to the preparation of Environmental Impact Statements as published in the Federal Register, Volume 42, No. 7, January 11, 1977, the allowances for its pollution load could not have been included in the original permit prior to completion of the environmental review process. It had been agreed with United States Steel Corporation, however, that pending a satisfactory environmental review, this Agency would propose a permit modification employing the new source performance standards as first published on February 19, 1974, and promulgated on June 28, 1974, although these standards have been remanded by the Third Circuit Court.

Using U. S. Steel's projected production of 5,000 tons per day of basic iron from No. 8 blast furnace, and the new source performance standards, this Agency is proposing to modify the NPDES permit for outfalls serials 010-027 to Opossum Creek by adding the following quantities of pollutants to those already allowed by the permit:

	Discharge Limitations			
	kg/day (lbs/day)		Other Units (Specify)	
	Daily Avg. (Gross)	Daily Max. (Gross)	Daily Min.	Daily Max.
TSS	59 (130)	177 (390)	--	--
CN-A	.6 (1.3)	1.8 (4.0)	--	--
Phenol	1.2 (2.6)	3.6 (8.0)	--	--
NH3-N	24 (52)	71 (156)	--	--
Sulfide	.7 (1.6)	2.3 (5)	--	--
Fluoride	47 (104)	142 (312)	--	--
pH std. units	--	--	6.0	9.0

Although the operation of this furnace will cause a slight increase of pollutants discharged to Opossum Creek it will result in a significant reduction in pollutants being discharged to Village Creek from the Ensley operations. The new blast furnace at Fairfield will enable the phase-out of the existing old blast furnaces at the Ensley operations by December 31, 1981. This is expected to reduce the discharges to Village Creek by 13 pounds per day of cyanides, 1.8 pounds per day of phenols, 103 pounds per day of ammonia nitrogen, and 1,668 pounds per day of total suspended solids. This plus the projected reductions from improved municipal treatment facilities is expected to result in a very significant improvement in that creek.

The applicable water quality standards to Opossum Creek and its receiving water, Valley Creek, is still uncertain. The Alabama Water Improvement Commission reclassified this stream to industrial operations on December 19, 1977. This reclassification was disapproved by this Agency on April 13, 1978. The principle issue as it relates to this permit is with a toxicity of ammonia and cyanide. The allowed increases of these parameters is less than 10 percent and can be expected to have a minimal effect on the toxicity of the stream.

MR. PERRY: Thank you, Mr. Patrick. I would now like to recognize Mr. James L. Bryant who is an engineer with the Alabama Water Improvement Commission.

MR. BRYANT: Mr. Chairman, Ladies and Gentlemen, I am James L. Bryant, an engineer with the Industrial Waste Control Section of the Alabama Water Improvement Commission. On behalf of Mr. James W. Warr, Director, Alabama Water Improvement

Commission, I would like to thank you for the opportunity to review the Draft Environmental Impact Statement and to present these comments tonight.

We have reviewed the Draft Environmental Impact Statement for the U. S. Steel Corporation No. 8 blast furnace, and are concerned that this document was not prepared nor public comment received prior to construction of the facility. As this project is practically completed and ready for start-up, we are concerned that comments and statements received tonight could have little significance when the Environmental Protection Agency considers the final approval of the project and modifications to the National Pollutant Discharge Elimination System permit.

The proposed action by U. S. Steel Corporation will result in an increased discharge to Opossum Creek of 1.3 pounds per day cyanide, 2.8 pounds per day of phenol, 52 pounds per day of ammonia, and 130 pounds per day of total suspended solids. The Draft EIS rationalizes that this increase will have little or no impact on the receiving stream for several reasons. One, a pollutant offset or trade-off between Village Creek and Opossum and Valley Creeks will make this project more acceptable because those pollutants discharged by the Ensley blast furnaces to Village Creek will be eliminated. Secondly, because biological and chemical studies have shown that the existing water quality of Opossum Creek and portions of Valley Creek is poor and supports little or no aquatic life, the addition of a few pounds of pollutants will have little impact, if any, on the streams.

The proposed position taken by EPA on this action does not seem consistent with its denial of the "Industrial Operations" classification adopted by the Water Improvement Commission. The Commission contends that Opossum Creek and Valley Creek, due to past and future discharges of pollutants from point and non-point sources, will not at this time nor in the near future support fish habitation. Due to a lack of substantiating data from the Commission, EPA denied the "Industrial Operations" classification. Yet, throughout the Draft EIS, statements are made that the additional pollutants from the No. 8 blast furnace will have little or no impact on the water quality of these streams. The existing conditions are such that no fish are found in Opossum Creek, and few, if any, in certain reaches of Valley Creek. It is unclear from the viewpoint of the Commission Staff what the position of EPA is regarding the proposed modification to the U. S. Steel permit in light of the fact that EPA has not yet taken a position on the classification of Opossum and Valley Creeks.

As the State Agency responsible for certifying the discharge in accordance with Section 401 of the Federal Water Pollution Control Act Amendments of 1972, the Commission welcomes the opportunity to receive comments tonight. Constructive comments will be considered when a decision is to be made on certification and on modification of the State Discharge Permit. Thank you.

MR. PERRY: Thank you. Are there other representatives from the State here tonight? (No response.) All right. Are there other representatives from federal agencies? (No response.) Are there representatives of other governmental organizations who would like to make a statement here tonight? (No response.) Are there any local elected representatives who would like to make a statement? (No response.) If not, I will make a brief statement as to the conduct of the hearing. We will now proceed with, I guess, the real purpose of what we're here for tonight, and that is to receive public comments. It is the express goal of both the Clean Water Act and the National Environmental Policy Act to encourage and provide for public participation and input into determinations required by those statutes.

The Draft Environmental Impact Statement and the NPDES permit are, therefore, being discussed in this open forum to encourage full participation of the public in the decision making process, to develop greater responsiveness of governmental action to the public's concerns and priorities, and to develop improved public understanding of the United States Steel Corporation and the actions of this Agency has proposed to take with regard to the facility. This hearing is being conducted pursuant to 40CFR, Section 125.34 of our regulations and should be -- and should represent to you an opportunity to make your views with respect

ATLANTA REPORTING COMPANY, INC.

to the project known to the governmental agencies charged with responsibility of making decisions concerning this modification to the permit.

Notice of this public hearing was published in the Birmingham News on May 14, 1978. In addition, copies of the public notice were mailed to each of those individuals or organizations on the EPA mailing list as well as all appropriate governmental agencies.

Before I proceed further, I would like to ask everyone here who is not already registered to please do so before you leave. We ask that you register so that we will have a record of those in attendance, and also so that we can send you a notice of our determinations with regard to this facility. EPA personnel -- I started to say are at the registration table, but I don't think there's anyone out there right at the moment. But we will make arrangements to take your registration card. For those of you who would like to be added to our mailing list, we ask that you check the appropriate block on the card. If you have not already registered and wish to make an oral statement here tonight, I would ask that after the names that we've called that you feel free to do so and then please register with our personnel after the hearing. The complete agenda of the meeting is also available at the registration desk outside for those persons who would like to have one, as well as a copy of public notice and the fact sheet.

This hearing will be conducted informally. Formal rules of evidence will not apply, and both oral and written statements will be accepted. Any and all persons present and desiring to make an oral statement or to submit written statements will be afforded the opportunity to do so. If you have a written statement which will accompany your oral presentation, I would ask that you give a copy of that written statement prior to your beginning. If you have a lengthy written statement I ask that your oral presentation be in summary form if at all possible. All presentations should be limited to ten minutes or less, and I may interrupt or cut short, if necessary, any oral presentation exceeding this limit.

The members of this panel may ask questions of any person presenting oral statements where it is felt necessary to clarify the nature or substance of the comments of any part thereof. However, the audience will not be permitted to ask questions of those persons commenting for the record.

As we proceed with the agenda I would like to ask that each person making a statement step up to the microphone, state his or her name, and the interest or organization represented. This hearing is being recorded by a court reporter and also by our recording devices for future transcription. In addition to all oral and written comments submitted tonight, the comment period for the Draft Environmental Impact Statement remains open for an additional two weeks and allows the submission of further comments. We will hold the written record of this hearing and any other comments received as a matter of public record in the Regional Office in Atlanta.

All right. At this time I would like to recognize the representative of U. S. Steel, the permitee. I believe he would like to make a statement at this time.

DR. PETERSON: Thank you. My name is Dr. Jack K. Peterson and I am Manager-Environmental Control-South for United States Steel Corporation. I am pleased to present on behalf of United States Steel Corporation our comments concerning the Draft Environmental Impact Statement and proposed NPDES permit modification for the new No. 8 blast furnace at our Fairfield plant in Birmingham, Alabama. I request that this statement be made a part of the official record of this hearing.

United States Steel Corporation looks forward to the unrestricted operation of the new production facilities that are a part of our Fairfield modernization program. These facilities include two new coke oven batteries, a third Q-BOP steelmaking furnace, and a new 5,000 ton per day blast furnace. Our modernization program will maintain existing capacity of 3½ million tons per year at our Fairfield plant.

By unrestricted operation we refer to all local, state and federal requirements that must be identified, agreed to, complied with before and after these facilities begin operation. We believe that all such requirements have now been identified and agreed to for all of our facilities except the No. 8 blast furnace. The new blast furnace is the specific subject of this hearing. We believe that the Environmental Impact Statement should be approved as written and that the Fairfield NPDES permit should be modified as indicated and promptly issued so that the No. 8 blast furnace can be put into production without costly delay.

The Fairfield No. 8 blast furnace replaces iron-making capacity that will be retired at Ensley. For more legal than logical reasons, the replacement of the Ensley blast furnaces was the basis for EPA's determination that the No. 8 blast furnace should be considered a new source. Because we will discharge pollutants from the new blast furnace into Opossum Creek the existing Fairfield NPDES permit must be modified to authorize this discharge and to delete the Ensley blast furnace discharges into Village Creek. EPA determined, more than two years ago, that this permit modification constituted a major federal action. Consequently, the requirements of the National Environmental Policy Act were applicable and an Environmental Impact Statement was required.

United States Steel Corporation agreed to retain a consultant, approved by EPA, to prepare the Environmental Impact Statement under EPA's administrative and editorial direction. AWARE was retained over one year ago to prepare an Environmental Impact Statement for EPA under the terms of a Memorandum of Understanding dated March 30, 1977, between United States Steel Corporation and the United States Environmental Protection Agency. The

Draft Environmental Impact Statement, which is the subject of this meeting today, was approved by EPA on May 12, 1978, and distributed for comment. During this period United States Steel Corporation worked and cooperated with AWARE, the U. S. EPA, state and local agencies as well as state, local and national environmental groups in an effort to fully develop the information and facts needed to determine the incremental impact of the new No. 8 blast furnace. This information is presented in the Draft Environmental Impact Statement.

From the beginning, United States Steel Corporation believed that our modernization program was right from every point of view -- economic, energy, environment, and community. This is still our belief and we are pleased that the findings of the Environmental Impact Statement confirm our belief. The incremental impact of the new No. 8 blast furnace is positive in every respect.

The Draft Environmental Impact Statement is an EPA document prepared by a consultant, Associated Water and Air Resources, Inc. United States Steel agrees with the conclusions of the Environmental Impact Statement; however, we do not agree with all of the methodology, certain assumptions, or the limited scope of conclusions. We make this point because the EPA-AWARE treatment of certain subjects was not as we would have handled them. For example, in determining the incremental impact of the No. 8 blast furnace on ambient air quality, all major sources

ATLANTA REPORTING COMPANY, INC.

of air pollution had to be quantified. We feel EPA used very liberal estimates and emission factors. Consequently, while we did not agree on specific assumptions, we could agree on the results of the study which shows that there will be a marked improvement in ambient air quality.

The preparation of this Environmental Impact Statement has been a lengthy and very expensive effort. Every possible impact has been assessed and all available data has been thoroughly considered and evaluated in an unbiases manner. We have openly cooperated with all interested parties in this process. While we do not expect everyone to agree with all facets of this draft Environmental Impact Statement, we do think that objections should be made in a responsible manner consistent with the preparation of the study. If this is done, we are confident that the draft Environmental Impact Statement will be approved as written and the NPDES permit modified as proposed. Hopefully this will be done as expeditiously as possible so that the new blast furnace does not stand idle awaiting completion of this regulatory process. Thank you.

MR. PERRY: Thank you. Any questions from the panel? We will now hold the floor open for public comments. The first card that I have is Mr. Robert Douglass who is Director of Research for the Birmingham Area Chamber of Commerce.

MR. DOUGLASS: Thank you, Mr. Perry. Ladies and gentlemen, my name is Bob Douglass. I am Director of Research and Resource Development for the Birmingham Area Chamber of Commerce.

The Birmingham Area Chamber of Commerce is one of the largest business associations in Alabama with over 1900 member firms and 4000 individual members. The Environmental Economics Committee (EEC) of the Chamber is dedicated to maintaining a balance between environmental quality and economic well-being. The Environmental Economics Committee is vitally interested in the role of U. S. Steel Corporation in the Birmingham area and we offer these comments concerning the proposed modification of National Pollutant Discharge Elimination System permit (AL0003646) and the No. 8 blast furnace Environmental Impact Statement.

The EEC strongly supports the No. 8 blast furnace EIS and urges approval of the proposed modified NPDES permit.

A review of the construction and operational environmental impacts reveals that the proposed new No. 8 blast furnace will have a positive net result on our community. The construction phase alone is now providing over 1000 construction jobs. Most of these jobs have come from the Birmingham area labor force so this action has been a factor in reducing our unemployment rate.

We view the operation of the new blast furnace as a plus also. Once No. 8 is functional, the three remaining blast furnaces at the Ensley works will be shut down, significantly reducing the amount of pollutants now entering Village Creek.

U. S. Steel is the major employer in the four-county Birmingham metropolitan area and likewise a major contributor to our economy through payroll dollars. This total modernization program is viewed as being most positive for individual citizens and the Birmingham market. In addition to the directly related jobs and dollars already mentioned, this committment also acts as a stimulus for other corporate and private investment in the community.

In summary, the EEC feels that industry, citizens and local governments will all benefit by the operation of U. S. Steel's No. 8 blast furnace and the modification of the NPDES permit. We urge swift approval on this matter. Thank you.

MR. PERRY: Thank you, Mr. Douglass. Now, the next speaker that I have noted here is J. B. Brand, Jr. who is the Director of Industrial Relations for the Associated Industries of Alabama.

MR. BRAND: I am J. B. Brand, Jr., Director, Industrial Relations, Associated Industries of Alabama. We represent some 1400 organizations statewide.

The AIA urges the Environmental Protection Agency to approve the No. 8 blast furnace EIS in its present form, and to modify the U. S. Steel NPDES permit in a timely manner so that this furnace is authorized to begin production. U. S. Steel, its customers, our community and the state, and the Fairfield works employees will benefit from this new facility.

ATLANTA REPORTING COMPANY, INC.

U. S. Steel has apparently made a long range committment to Birmingham, and to the South, through this modernization program. New coke ovens, modern 5,000 ton per day blast furnace, and a third Q-BOP steelmaking vessel represent a large investment by U. S. Steel in the future of our community and state.

The jobs and taxes supported by these facilities are significant, but even more importantly, this committment is contagious and will favorably affect other business decisions in this area. We have reviewed the Environmental Impact Statement and frankly we cannot see how anyone can reasonably object to the proposed changes.

Air emissions will be significantly reduced by retiring the Ensley blast furnace. The Ensley water discharges into Village Creek will be drastically reduced, and the small amount of increase in pollutants discharged into Opossum Creek probably cannot be measured in the 20 million gallons per day discharge.

We understand that these new facilities are more energy efficient and we further understand that U. S. Steel has agreed to install elaborate facilities for air and water pollution control.

We believe that everyone gains from U. S. Steel's modernization program. There is no question in our mind that the Impact Statement and the permit modification should be approved. Perhaps the comprehensive water quality section of the EIS will be helpful in resolving the current stream classification issues of the Birmingham area. Thank you for this opportunity.

MR. PERRY: Thank you, Mr. Brand. Is there anyone else who wishes to make a statement at this time? (No response.) If not, I wish to thank all of you on behalf of the Environmental Protection Agency for your attendance and participation and cooperation here this evening.

The comment period for this Draft Environmental Impact Statement will remain open until the close of business Thursday, June 29, 1978. This will allow anyone wishing to submit additional statements sufficient time to do so. Further submissions must be in writing to be included in the official record, and should be sent to the attention of Mr. John E. Hagan, Chief, EIS Branch, EPA Region IV, 345 Courtland Street, Northeast, Atlanta, Georgia 30308. The EPA will take into consideration the evidence and statements presented tonight at this hearing and any other statements submitted between now and June 29. It will make determination regarding the permit based upon those comments and all material in the record. After making this determination we will then inform all persons who have come here tonight as well as those making additional comments between now and June 29, 1978.

It will be the final determination of the Agency, and the Agency's decision respecting the permit will be included in the final Environmental Impact Statement for the No. 8 blast furnace.

I wish to thank you again for appearing here this evening. If there is no other business, I declare the hearing adjourned.

(Whereupon, the hearing was adjourned.)

-oOo-

CERTIFICATE

GEORGIA)

FULTON COUNTY)

I, Diana Jordan, being a Notary Public in and for the State of Georgia at Large, do hereby certify that the above and foregoing is a true and complete transcription of my stenographic notes taken at the hereinabove set out time and place and was reduced to typewriting by me personally.

WITNESS my hand and official seal this 20th day of June 1978 at Atlanta, Fulton County, Georgia.

Diana J. Jordan

Diana W. Jordan

T-348

(SEAL)

Notary Public, Georgia, State at Large
My Commission Expires June 1, 19[illegible]

-oOo-

RESPONSE TO THE PUBLIC HEARING COMMENT MADE BY MR. LARRY BRYANT, ALABAMA WATER IMPROVEMENT COMMISSION

The data developed in conjunction with the DEIS on Opossum and Valley Creeks will be considered by EPA in establishing appropriate stream classifications.

CHAPTER 3

WRITTEN COMMENTS TO THE DRAFT EIS
EPA RESPONSES

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
REGION IV
101 MARIETTA TOWER, SUITE 1XXX 1503
ATLANTA, GEORGIA 30323

OFFICE OF THE
Principal Regional Official

June 22, 1978

Re: HEW 868-5-78

Mr. John E. Hagan III
Chief, EIS Branch
EPA, Region IV
345 Courtland St., N.E.
Atlanta, Georgia 30308

Subject: U.S. Steel Corporation, Number 8 Blast Furnace, Fairfield, AL
EPA 904/9-78-007

Dear Mr. Hagan:

We have reviewed the subject draft Environmental Impact Statement. Based upon the data contained in the draft, it is our opinion that the proposed action will have only a minor impact upon the human environment within the scope of this Department's review. The impact statement has been adequately addressed for our comments.

Sincerely yours,

James E. Yarbrough

James E. Yarbrough
Regional Environmental Officer
Region IV, DHEW

cc: Ms. A. McGee

Mr. Raymond Goldberg

REC
EPA
E

JUN 2 3 1978

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
CENTER FOR DISEASE CONTROL
ATLANTA, GEORGIA 30333
TELEPHONE: (404) 633-3311

June 22, 1978

WATER ENFORCEMENT BRANCH
RECEIVED
JUN 26 1978
REGION IV
ATLANTA, GA.

Enforcement Division
Attn: Ms. Mona Ellison
U.S. Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, Georgia 30308

Dear Ms. Ellison:

We have reviewed the draft environmental impact statement on United States Steel Corporation, Number 8 Blast Furnace, Fairfield, Alabama. We are responding on behalf of the Public Health Service.

In our review of the proposed project, we found no consideration given to occupational safety and health hazards, specifically nitrogen dioxide, sulfur dioxide, carbon monoxide, and heat stress. The National Institute of Occupational Safety & Health has established criteria documents for these, and these documents could be used or indexed as a reference in the statement.

The document stated ground water may be contaminated by industrial waste but the statement is not quantified. We realize this is a concern of EPA, but we are pointing it out as having a possible public health effect.

Thank you for the opportunity of reviewing this document. We would appreciate receiving a copy of the final statement when it is issued.

Sincerely yours,

William H. Foege, M.D.
Assistant Surgeon General
Director

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
P. O. Box 311, Auburn, Alabama 36830

June 23, 1978

Mr. John C. White
Regional Administrator
United States Environmental
Protection Agency
Region IV
345 Courtland Street
Atlanta, Georgia 30308

Dear Mr. White:

Staff specialists of the Soil Conservation Service to Auburn, Alabama, have reviewed the Draft Environmental Impact Statement for the United States Steel Corporation Number 8 Blast Furnace at Fairfield, Alabama. Staff comments listed according to their location in the DEIS are provided below for your consideration.

Page 3-56, first complete paragraph: Areas with a high potential for erosion can be identified by length of slope, steepness of slope, soil cover conditions, and the soil-erodibility factor for each kind of soil. Sites having long slopes, steep slopes, and little protective soil cover and being composed of soils with high erodibility factors have high potential for erosion. Treatment measures that provide for reducing slope length and gradient, improving soil cover, creating roughness condition of the soil surface and working across the contour will reduce erosion rates. Treatment measures such as quick revegetation, grassed waterways, terraces and diversions, sediment basins, and other methods which reduce water velocity should be used during construction.

Page 3-109, first paragraph, line 2: The Largemouth Bass, Spotted Bass, and White Bass are predators, not forage or rough fish. This paragraph should be changed to reflect the presence of predator species.

In general the discussion of the fish populations of the streams involved does not indicate population values, production, or percent of harvestable size fishes.

Page 3-110, Table 3-21: There are several errors in the spelling of species names; for example, the Golden Redhorse species is *erythrurum* not *erythruram* and the Blacktail Redhorse species is *poecilurum* not *poeilurum*. This table should be reviewed and corrected. The species for the Short-nosed Gar is omitted and the genus for the Warmouth is *Lepomis* not *Chaenobryttus*.

Page 3-112, Table 3-23: The species for the White Crappie is Annularis, not Anulams. This species is also omitted from Table 3-21, page 3-110.

Page 3-119, third paragraph: There are several errors in the spelling of scientific names of plants. This table should be reviewed and corrections made.

Page 3-143, Climax Forest: This paragraph should be rewritten to more accurately reflect the forest succession. A true climax forest for this area is not described in this paragraph.

Page 8-19, Table 8-9: Errors in spelling of species names are noted. Table should be reviewed and corrected.

Page 8-20, Table 8-10: Errors in spelling are noted. This table should be reviewed and corrected. The genus for the Warmouth is not correct.

Page 8-26, Table 8-14: Species spelling for White Crappie is incorrect.

Page 8-29, Table 8-15: Eastern Cottonmouth species name is incorrectly spelled.

Page 8-34, third paragraph: Errors in spelling of genera are noted. This table should be reviewed and corrected.

Page B-3-3, Table B-2: This table lists many species which supposedly occur or could occur in the Black Warrior Basin; the inclusion of some species in this list is highly questionable. We suggest that this table be reviewed and deletions made in order that the listings may be more accurate. For example, Roseate Spoonbill, Ruffed Grouse, Ring-necked Pheasant are not found in the basin.

Page B-6-1, Table B-7: Ironweed should be Ironwood. Table should be reviewed and spelling errors corrected.

Page B-6-3, Table B-8: The table should be reviewed and spelling corrected.

Page 3-124, paragraph 3.1.11.4, Agricultural Land: Approximate total acres of prime farmland to be disturbed or altered as a result of this proposed furnace should be addressed.

We appreciate the opportunity to review environmental impact statements such as this, and we hope that the comments provided will be of some benefit.

Sincerely,

WB Lingle

W. B. Lingle
State Conservationist

cc:
EPA, Room 537, W. Tower, 401 M St., S. W., Washington, D. C. 20460 (5 cys)
G. H. Loomis, Director, ESD, USDA-SCS, P. O. Box 2890, Washington, D. C. 20013 (1 cy)
J. V. Martin, Director, STSC, P. O. Box 6567, Ft. Worth, TX 76115 (1 cy)

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
AREA OFFICE
DANIEL BUILDING, 15 SOUTH 20TH. STREET, BIRMINGHAM, ALABAMA 35233

REGION IV
Pershing Point Plaza
1371 Peachtree Street, N.E.
Atlanta, Georgia 30309

June 13, 1978

IN REPLY REFER TO:
4.2SS

Mr. John C. White
Regional Administrator
U.S. Environmental Protection Agency
Region IV
345 Courtland Street
Atlanta, Georgia 30308

Dear Mr. White:

Subject: Draft Environmental Impact Statement
U.S. Steel Corporation
No. 8 Blast Furnace, Fairfield, Ala.

We are pleased to acknowledge receipt of the above referenced request for HUD's comments under the requirements of the National Environmental Policy Act of 1969 (P.L. 91-109).

We have reviewed the information submitted along with your referral and, to the extent of available staff resources, have investigated the environmental impact, adverse effect, and commitment of resources for the project involved. From the information available to us, we feel that this project will have a long range positive effect on our programs through a reduction of pollutants.

Your interest in this matter is appreciated.

Sincerely,

For John E. Wilson
Area Director

ALABAMA
AIR POLLUTION CONTROL
COMMISSION
645 South McDonough Street, Montgomery, Alabama 36130
Telephone 205-834-6570
ACTS No. 345-6770

June 29, 1978

Mr. John E. Hagan III, Chief
EIS Branch
Environmental Protection Agency, Region IV
345 Courtland Street, N.E.
Atlanta, GA 30308

Dear Mr. Hagan:

This letter represents this agency's comments on the draft Environmental Impact Statement for U.S. Steel's No. 8 Blast Furnace at the Fairfield Works in Jefferson County.

The document entitled, "Draft Environmental Impact Statment" says that the Fairfield air quality sampling station meets the primary air quality standards for particulate matter. This statement is contained on page 3-47 of the document. This statement is in error and should be deleted. Based on EPA guidance, the proper basis for determining whether an ambient monitoring station demonstrated attainment of the standard included evaluating the concentrations monitored for the period 10/76 to 10/77 be assessed. The concentration monitored by the Fairfield monitoring site for this time period was 77 ugm^{-3}. This is in excess of the primary air quality standard.

In my letter of February 9, 1978, to Mr. Russell Todd regarding the preliminary draft environmental impact statement, I indicated that the EIS did not contain a short-term air quality analysis. An explanation of why no short-term analysis was included should be addressed, especially in view of the imposition of this requirement on the DEIS prepared for Ideal Cement.

If any of these comments require clarification, please advise.

Yours very truly,

RE Grusnick for

James W. Cooper, Director
Division of Air Pollution Control
Alabama Air Pollution Control Commission

JWC/REG:ldg

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

ER-78/453

JUN 29 1978

Mr. John C. White
Regional Administrator, IV
Environmental Protection Agency
345 Courtland Street
Atlanta, Georgia 30308

Dear Mr. White:

Thank you for your letter of May 12, 1978, transmitting copies of the Environmental Protection Agency's draft environmental statement for U.S. Steel Corporation Number 8 Blast Furnace, located in Jefferson County, Alabama.

The final statement should discuss the potential for impacts on ground water from coal in storage. It should also discuss pertinent details of the construction of wastewater-management ponds and potential effects of seepage from the ponds or infiltration to ground water following accidental or planned release of contaminants from any other point in the wastewater system. We recommend that the final statement discuss mitigation measures to prevent adverse impacts to ground water.

Minor Comments

The final statement should correct a sentence on page 2-6, paragraph 3 of the draft. It should include words to the effect that iron is reduced by carbon monoxide through the partial combustion of coke, and not by the coke itself.

Please note that, contrary to the statement on page 2, paragraph 1, fuels are not beneficiated. If the statemeans beneficiated charge, we recommend the final statement notes that this operation is only done occasionally.

JUL 5 1978

The flow chart, in figure 2-4, should be deleted because the process is too complicated to be accurately reduced to this simplistic form. About one-half of the hot rolled strip is normally sold as such with the other half of the product going to a cold tandem mill to produce cold rolled sheet and strip. This, in turn, goes through annealing and temper mills to be sold as cold rolled sheet and strip, or else to the electrolytic tinning line. There are no sheet mills left in the United States or Canada. The term "sheet mills" means mills that process cut sheet. The final statement should recognize the complexity of this process.

We hope these comments will be helpful to you in the preparation of a final impact statement.

Sincerely,

Larry E. Meierotto
Deputy Assistant SECRETARY

DEPARTMENT OF THE ARMY
MOBILE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 2288
MOBILE, ALABAMA 36628

Barnett/rwr/FTS 534-2724

REPLY TO
ATTENTION OF:
SAMPD-EE

15 June 1978

Mr. John C. White
Regional Administrator
U. S. Environmental Protection Agency,
  Region IV
345 Courtland Street
Atlanta, GA 30308

Dear Mr. White:

We have reviewed the Draft Environmental Statement for the United States Steel Corporation, Number 8 Blast Furnace, Fairfield, Alabama, and we have the following comments:

a. Page 3-71, Flow Frequency Table - It appears that the last column heading is incorrect. The percentage should be substantially higher than five percent.

b. Page 3-84, Navigation, Paragraph 1 - Navigation from Mobile, Alabama, to Mile 22 on the Locust Fork and Mile 46 on Mulberry Fork is provided by six locks and dams on the Tombigbee and Black Warrior Rivers.

c. Page 3-86, Section 3.1.9.1.3 - Plants in title of section should be changed to Plans.

d. Page 3-86, Section 3.1.9.1.3 - Beginning in June 1978, the U. S. Army Corps of Engineers is scheduled to conduct a water quality management study of Oliver, Holt, and Bankhead Lakes on the Black Warrior River. The study will include biological, chemical, and physical parameters of water and sediment. General objectives of the study are to: (1) establish base-line conditions for future comparisons; (2) identify water quality-environmental problems; (3) collect data to develop guidance for reservoir control-discharge water quality relationships; (4) study special problems and collect data necessary to develop criteria for solutions to such problems; and, (5) collect data that will provide an adequate data base and understanding of project conditions to facilitate coordination with State agencies to implement watershed pollution control.

e. CEQ Guidelines for Preparation of Environmental Impact Statement (CFR Title 40, Chapter V, Part 1500) states that an environmental statement should cover eight points. The subject EIS does not have sections concerning: (1) the relationship of the proposed action to land-use plans, policies, and controls for the affected area; (2) any probable adverse environmental effects which cannot be avoided; and, (3) the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity.

Thank you for the opportunity to comment on this document.

Sincerely yours,

Mark Anthony

MARK ANTHONY, Ph. D.
Acting Chief
Environment and Resources Branch

the University of Alabama in Birmingham / UNIVERSITY STATION / BIRMINGHAM, ALABAMA 35294
University College / DEPARTMENT OF BIOLOGY / (205) 934-4685

July 28, 1978

Mr. John E. Hagan, III
Chief, EIS Branch
EPA, Region IV
345 Courtland St, NE
Atlanta, GA 30308

Dear Mr. Hagan:

I have reviewed the EIS for USS Blast Furnace Number 8 and wish to submit the following comments.

Taking all factors into consideration, including economic as well as environmental, I agree with the recommended permit modifications. Although the operation of the Number 8 Blast Furnace will result in increased discharge of toxic wastes into Valley Creek this is more than offset by the decrease of toxic wastes discharged into Village Creek. Furthermore, the evidence presented in the EIS indicates that since three old furnaces will be closed down, the new furnace operation will not result in significant increases in the air pollution problem.

I was particularly pleased to see the non-point runoff study that was a part of this EIS. The non-point problem has not been adequately addressed in the Areawide 208 Study that is presently being completed, due to limited availability of funds. The studies presented here are a welcome addition to the small amount of work on non-point sources that has been done in the Birmingham area.

One point was not clear to me as I reviewed the data. When the discharges, (002 and 004) which amount to about 9MGD, are discontinued, what will be the effect of this decreased volume on concentrations of toxic materials discharged from other sources in Valley Creek? It is also not clear as to how this decrease in water volume in the stream will affect reaeration rates.

My only real objection to this EIS is that it appears to have been initiated by EPA and carried out because of a technicality rather than because of the likelihood of a serious, adverse environmental impact. It seems to me that the changes in toxic wastes discharged into Valley and Village Creeks could have been determined without an extensive EIS. The only unique contribution of this EIS was the modeling effort on air quality. This study could have been conducted by itself to determine the impacts of closing the old furnaces and operating the new one.

AN AFFIRMATIVE ACTION / EQUAL OPPORTUNITY EMPLOYER

The conditions of Village and Valley Creek have been studied as part of the areawide 208 Project. Considering the known conditions and classifications of these streams, it seems that the extensive sampling that was done in this EIS was disproportionate to the need. When industries have to pay for actions such as this EIS, the cost is ultimately transferred to the consumer. The effort expended by EPA is also at taxpayer expense. I feel that an EIS should originate from local actions, and only when a serious concern for the environment is expressed.

Although Village and Valley Creeks presently have low stream classifications, environmentalists have not abandoned the hope of approaching the zero discharge goals of Public Law 92-500. The difficult task is to achieve water quality goals in a cost effective way that will not be economically detrimental. United States Steel Corporation is to be congratulated on the efforts they have made. It is my sincere hope that they will continue to work toward improving water quality in Birmingham and in other parts of the United States.

Joseph J. Gauthier, Ph.D
Associate Professor of Biology, UAB
Technical Committee

RESPONSE TO THE DEPARTMENT OF HEALTH, EDUCATION AND WELFARE, REGION IV

No response required.

RESPONSE TO THE DEPARTMENT OF HEALTH, EDUCATION AND WELFARE, PUBLIC HEALTH SERVICE, CENTER FOR DISEASE CONTROL

The proposed modernization is not anticipated to impact adversely, from the standpoint of occupational safety and health hazards, over and above the existing environment.

RESPONSE TO THE UNITED STATES DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE

Page 3-109: All of the fish mentioned are acknowledged to be predators. However, only seven fish were collected, in total, of these three species.

Page 3-110; Table 3-21: The following species designations and spellings are corrected:

Golden redhorse: *Moxostoma erythrurum*
Blacktail redhorse: *Moxostoma poecilurum*
Shortnose gar: *Lepisosteus platostomus*
Warmouth: *Lepomis gulosus*

Page 3-112: The following spelling correction is made:

White crappie: *Pomoxis annularis*

Page 3-119: The following spelling corrections are made:

Ironwood: *Carpinus caroliniana*
Sweetgum: *Liquidambar styraciflua*
Sassafras: *Sassafras albidum*
White ash: *Fraxinus americana*
River cane: *Arundinaria gigantea*
Honeysuckle: *Lonicera sempervirens*

Page 3-143: The accuracy of the comment is acknowledged.

Page 8-19; Table 8-9; The following spelling corrections are made:

Stoneroller: *Campostoma anomalum*
Bullhead minnow: *Pimephales vigilax*
Blacktail redhorse: *Moxostoma poecilurum*

Page 8-20; Table 8-10: The following spelling corrections are made:

Blacktail redhorse: *Moxostoma poecilurum*
Skipjack herring: *Alosa chrysochloris*
Black redhorse: *Moxostoma duquesnii*
Bluegill: *Lepomis macrochirus*
Warmouth: *Lepomis gulosus*

Page 8-26; Table 8-14: The following spelling correction is made:

White crappie: *Pomoxis annularis*

Page 8-29; Table 8-15: The following spelling correction is made:

Eastern cottonmouth: *Agkistrodon piscivorus piscivorus*

Page 8-34: See corrections for page 3-119.

Page B-3-3; Table B-2: The reader should infer from the "A":(accidental) key, that these species may not be permanent residents of the basin but rather were only sited there at one time.

Pages B-6-1 to B-6-4; Tables B-7 and B-8: The following spelling corrections are made (including deletions of capital letters and insertion of a hyphen).

Blood root: *Sanguinaria canadensis*
Laurel oak: *Quercus hemisphaerica*
Hawthorn: *Crataegus uniflora*

Spurge-nettle: *Cnidoscolus stimulosus*
Shining sumac: *Rhus copallina*
Scarlet oak: *Quercus coccinea*
Black locust: *Robinia pseudo-acacia*
Cucumbertree: *Magnolia acuminata*
Southern bayberry: *Myrica cerifera*

Page 3-124: The new blast furnace and related facilities will be located on an existing industrial site. No prime farmland will be disturbed nor altered.

RESPONSE TO THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

No response required.

RESPONSE TO THE ALABAMA AIR POLLUTION CONTROL COMMISSION

The statement, "However, the Fairfield air quality sampling station nearest to the Fairfield Works meets the primary ambient air quality standards for particulate matter." will be deleted from Page 3-47 of the Draft Environmental Impact Statement as requested. This statement was based on the most recent single year of data (1977). Two years of data are required in determining attainment status which minimizes the changes of relying on a single year's data, which might reflect abnormally favorable meteorological conditions. In 1976, the Fairfield air quality sampling station violated the primary standard for particulate matter.

The proposed modernization by the U. S. Steel Corporation involves replacement of antiquated facilities and it has been demonstrated, through an analysis of emission rates and mathematical modeling, that this will have a positive impact on ambient air quality.

RESPONSE TO THE UNITED STATES DEPARTMENT OF THE INTERIOR

The proposed modernization including construction and operation of the No. 8 blast furnace, the No. 2 coke battery, a third Q-BOP furnace and four soaking pits will not result in any impacts to groundwater over and above those which may result from the existing environment. For this reason a detailed evaluation of groundwater impacts was not made.

Iron is reduced by the carbon monoxide from the partial combustion of coke and not by the coke itself. This statement will supersede the statement on page 2-6 of the DEIS. Also the Final EIS incorporates a change from "beneficiated fuels" to "beneficiated charge." Beneficiated charge is used all of the time, however.

RESPONSE TO THE ARMY CORPS OF ENGINEERS, MOBILE DISTRICT

Comment a: The last column heading on the Flow Frequency Table, page 3-71 of the DEIS should be changed from 5% to 50%.

Comment b: No response required.

Comment c: Page 3-86, Section 3.1.9.1.3., the word plant should be changed to plans, as recommended.

Comment d: No response required.

Comment e: The points to be addressed which are suggested in the CEQ guidelines have been addressed in the text of the DEIS rather than in specific sections.

The proposed project will not significantly change the land use plan, since it is part of a modernization program on an existing facility.

Adverse impacts which cannot be avoided will be the increased discharge of total suspended solids, phenols, ammonia, and cyanide to Opossum Creek and Valley Creek. The modernization program will not change the impact from the existing facility either for short-term uses or long-term productivity. It is designed to maintain existing production following phase-out of older facilities.

RESPONSE TO DR. JOSEPH GAUTHIER

No response required.

CHAPTER 4
STATEMENT OF FINDINGS

CHAPTER 4

STATEMENT OF FINDINGS

4.1. AGENCY DECISION

Based on the comprehensive NEPA review of this project, the EPA, Region IV, intends to issue the modified water discharge permit to the U. S. Steel Corporation to include the discharge from the operation of the No. 8 blast furnace. EPA intends to issue this NPDES permit following the expiration of the thirty (30) day administrative waiting period which begins upon issuance of the Final EIS.

4.2. NEED FOR THE PROJECT

The U. S. Steel Corporation could not justify investing in expensive emission control equipment for some of the old, antiquated iron and steelmaking facilities. Construction of the No. 8 blast furnace, at the Fairfield Works, is part of a modernization program proposed by the company which will allow phasing out of antiquated high air emission equipment. Latest technology in emission control and process operations will enable the company to decrease air emissions and yet maintain its existing production capacity.

4.3. AIR QUALITY

Ambient air quality modeling analyses reveal that an overall reduction in TSP concentrations will occur with the installation of the proposed new facilities. This will have a positive impact with regard to the influence of the new facilities on the air quality of the surrounding community and should contribute to improved general environmental conditions. A reduction in U. S. Steel's emissions and concomitant improvement in air quality would result from application of best technology to both new and existing sources, including the construction of the proposed new blast furnace.

4.4. WATER QUALITY

Construction of the No. 8 blast furnace at the Fairfield Works, and the idling of Nos. 1, 2, and 3 blast furnaces at the Ensley Works will shift wastewater discharges from Village Creek to Opossum Creek and Valley Creek. The projected increases in discharge of pollutants to Opossum and Valley Creeks from the proposed project are:

130 lb/day for suspended solids
1.3 lb/day for cyanides
2.6 lb/day for phenols
52 lb/day for ammonia
(based on BATEA effluent limitations)

According to the model predictions, the blast furnace will decrease the dissolved oxygen in Valley Creek at the critical point by approximately 0.12 mg/l , increase the ammonia concentration by approximately 0.1 mg/l, increase the phenol concentration by 0.012 mg/l and increase the cyanide concentration by 0.001 mg/l at the 10-year, 7-day low flow condition.

4.5. BIOLOGY

The proposed action will increase loadings of suspended solids, cyanides, phenols and ammonia to Opossum and Valley Creeks. This will exert additional stress to surviving organisms in the upper reaches of the streams and increases the possibility of extending the area of impact downstream.

4.6. MANMADE ENVIRONMENT

The Agency's evaluation of comments and its internal assessment did not discover impacts which would be unacceptable to the area of the Fairfield Works. Once built, the visual quality will not be much different than at present.

APPENDIX A

U. S. ENVIRONMENTAL PROTECTION AGENCY LETTER, APRIL 15, 1976, to U. S. STEEL CORPORATION

APPENDIX A

1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
1421 PEACHTREE ST., N. E.
ATLANTA, GEORGIA 30309

4AEW:WIC

APR 15 1976

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. James L. Hamilton, III
United States Steel Corporation
600 Grant Street
Pittsburgh, Pennsylvania 15230

Dear Mr. Hamilton:

As a result of various meetings and discussions with my staff I have made the following determinations relative to the discharge to the navigable waters of the United States from your Fairfield, Alabama plant expansion:

BLAST FURNACE

1. Construction of this facility was not in progress as of February 19, 1974.

2. This facility falls within the Iron and Steel industrial category.

3. New Source Performance Standards for this industrial category were proposed in the Federal Register on February 19, 1974.

4. There is a New Source Performance Standard within this category which can reasonably be considered applicable to the facility.

5. The expansion is of sufficient magnitude that it can reasonably be expected to have sufficient flexibility to achieve the applicable New Source Performance Standards.

As a result of these determinations I have concluded that because this expansion has the flexibility to achieve applicable New Source Performance Standards and construction of it did not begin prior to the New Source Performance Standards proposal date, the expanded portion of this facility is a new source. Therefore, in accordance with Section 511(c)(1) of the Federal Water Pollution Control Act, as amended (33 USC 1311), I have ruled that issuance of an NPDES permit to this facility is subject to all provisions of the National Environmental Policy Act of 1969 (83 Stat. 852).

RECEIVED
UNITED STATES STEEL CORPORATION
APR 19 1976
ENVIRONMENTAL CONTROL

QBOP UNIT AND COKE OVENS

1. Construction of this facility was not in progress as of February 19, 1974.

2. This facility falls within the Iron and Steel industrial category.

3. New Source Performance Standards for this industrial category were proposed in the Federal Register on February 19, 1974.

4. There is a New Source Performance Standard within this category which can reasonably be considered applicable to this facility.

5. This expansion is not of sufficient magnitude that it can reasonably be expected to have sufficient flexibility to achieve the applicable New Source Performance Standards.

As a result of these determinations I have concluded that because this expansion lacks the flexibility to achieve applicable New Source Performance Standards, the expanded portion of this facility is an existing source. Therefore, in accordance with Section 511(c)(1) of the Federal Water Pollution Control Act, as amended (33 USC 1311), I have ruled that issuance of an NPDES permit to this facility is not subject to any provisions of the National Environmental Policy Act of 1969 (83 Stat. 852).

You may submit a request for an adjudicatory hearing and/or legal decision within twenty (20) days of the receipt of this letter. The request and two copies thereof must be submitted to the Regional Hearing Clerk, Environmental Protection Agency, 1421 Peachtree Street, N.E., Atlanta, Georgia 30309. The submission of the request will be within the time period if mailed by Certified Mail before the 20th day. The request must:

1. State the name and address of the person making such request;

2. Include an agreement by the requestor to be subject to examination and cross-examination and to make any employee or consultant of such requestor or other person represented by the requestor available for examination and cross-examination at the expense of such requestor or such other person upon the request of the Presiding Officer, on his own motion, or on the motion of any party;

3. State with particularity the reasons for the request; and

4. State with particularity the issues proposed to be considered at the hearing.

Additional information on adjudicatory hearings and legal decisions is found at Title 40, Code of Federal Regulations, Section 125.36, 39, Federal Register 27081.

If you have further questions concerning this matter, please contact Mr. William H. Cloward of our Water Enforcement Branch at 404/526-2017.

Sincerely yours,

for John A. Little, Deputy
Jack E. Ravan
Regional Administrator

cc: Mr. James W. Warr
Alabama WIC

APPENDIX B

PROPOSED NPDES PERMIT MODIFICATIONS

AGENDA

PUBLIC HEARING

U.S. Environmental Protection Agency
Region IV

June 15, 1978

Public Hearing to receive comments on the Draft Environmental Impact Statement (EIS), the proposed issuance of a National Pollutant Discharge Elimination System (NPDES) permit for the

United States Steel Corporation
Fairfield Works
Fairfield, Alabama

Opening Statement - Charles A. Perry, Acting Regional Counsel, EPA, Region IV

EIS Process - Russell L. Todd, EIS Branch, EPA, Region IV

NPDES Permit - James R. Patrick, Chief, Compliance Section, EPA, Region IV

Other Federal and State Agency Presentations
Local Elected Representatives
Conduct of the Hearing - Charles A. Perry
Statement by U.S. Steel

Public Comments

Closing Statement - Charles A. Perry
Mailing Address for Comments : Mr. John E. Hagan III, Chief EIS Branch
Environmental Protection Agency, Region IV
345 Courtland Street N.E.
Atlanta, GA 30308

JOINT
PUBLIC NOTICE

U. S. Environmental Protection Agency
Region IV, Water Enforcement Branch
345 Courtland Street, N. E.
Atlanta, Georgia 30308
404/881-2328

in conjunction with

Alabama Water Improvement Commission
Perry Hill Office Park, 3815 Interstate Court
Montgomery, Alabama 36109
205/277-3630

Public Notice No. PH78AL0017 Date: May 14, 1978

NOTICE OF PUBLIC INFORMATION HEARING ON DRAFT ENVIRONMENTAL IMPACT STATEMENT, NOTICE OF PROPOSED MODIFICATION OF NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT, AND NOTICE OF CONSIDERATION FOR STATE CERTIFICATION

The U. S. Environmental Protection Agency (EPA) proposes to modify National Pollutant Discharge Elimination System (NPDES) permit number AL0003646 issued to U. S. Steel Corporation, 600 Grant Street, Pittsburgh, Pennsylvania 15230, for its Fairfield District Works, Post Office Box 599, Fairfield, Alabama 35064.

The applicant proposes to discharge wastewaters from a new (No. 8) blast furnace (SIC 3312) through their existing wastewater treatment facilities, discharge serial 010 through 027, into O'Possum Creek, a tributary of Valley Creek. The blast furnace wastewater will be pretreated to meet new source performance standards for the Iron and Steel Subcategory as published in the Federal Register, January 28, 1974 (remanded 3 CR, 11/7/75).

The receiving waters, O'Possum Creek and Valley Creek, were classified by the Alabama Water Improvement Commission as Industrial Operations on December 19, 1977. This classification was disapproved by the U. S. Environmental Protection Agency on April 13, 1978.

The above referenced new source performance standards, for a production of 5,000 tons per day of basic iron, allow the following quantities:

	kg/day (lbs/day)		Other Units (Specify)	
	Daily Avg (Gross)	Daily Max (Gross)	Daily Min.	Daily Max
TSS	59(130)	177(390)	—	—
CN-A	.6(1.3)	1.8(4.0)	—	—
Phenol	1.2(2.6)	3.6(8.0)	—	—
NH_3-N	24(52)	71(156)	—	—
Sulfide	.7(1.6)	2.3(5)	—	—
Flouride	47(104)	142(312)	—	—
pH. std. units	—	—	6.0	9.0

The above quantities are specific limitations of the pre-treatment facilities during periods when the discharge from serial 010 through 027 are affected by rainfall.

This modification will increase the limitations for discharge serial 010 through 027 as follows:

PRESENT LIMITATIONS

Effluent Characteristic	Discharge Limitations			
	kg/day (lbs/day)		Other Units (Specify)	
	Daily Avg	Daily Max	Daily Avg	Daily Max
Flow—m^3/Day (MGD)	—	—	—	—
Temperature °C(°F)	--	--	--	35(95)
Ammonia-Nitrogen	--	789(1740)	--	--
Cyanide	--	23(50)	--	--
Phenols	--	15.8(35)	--	--
TSS	1856(4125)	3651(8050)	--	--
Total Zinc	16.3(36)	32.7(72)	--	--
Oil & Grease	354(780)	744(1641)	--	--
T. D. Iron	136(300)	272(600)	--	--
COD	5761(12690)	9568(21074)	--	--
Total Chromium	4.5(10)	13.5(30)	--	--
Tin	70(155)	140(310)	--	--
Fluoride	276(609)	435(959)	--	--

PROPOSED LIMITATIONS

Effluent Characteristic	Discharge Limitations			
	kg/day (lbs/day)		Other Units (Specify)	
	Daily Avg	Daily Max	Daily Avg	Daily Max
Flow—m^3/Day (MGD)	—	—	—	—
Temperature °C(°F)	--	--	--	35(95)
Ammonia-Nitrogen	--	860(1896)	--	--
Cyanide	--	24.5(54)	--	--
Phenols	--	19.5(43)	--	--
TSS	1930(4255)	3828(8440)	--	--
Total Zinc	16.3(36)	32.7(72)	--	--
Oil & Grease	354(780)	744(1641)	--	--
T. D. Iron	136(300)	272(600)	--	--
COD	5761(12690)	9568(21074)	--	--
Total Chromium	4.5(10)	13.5(30)	--	--
Tin	70(155)	140(310)	--	--
Fluoride	323(713)	577(1271)	--	--

The proposed modifications are tentative and open to comment from the public. The modified permit will expire on June 23, 1982.

The Environmental Protection Agency (EPA) has prepared a draft environmental impact statement on United States Steel Corporation number eight blast furnace. The proposed blast furnace will be constructed at the U. S. Steel Fairfield Works southwest of Birmingham in Jefferson County, Alabama.

The draft environmental impact statement will be made available to the EPA Office of Federal Activities and to the public on May 12, 1978, by EPA, Region IV. The Regional Administrator of EPA has determined that a public hearing will be held to foster further public participation on the proposed modification of the NPDES permit. The public hearing is scheduled for June 15, 1978, and will begin at 7:00 p.m. in Cudworth Hall, Engineering Auditorium, University of Alabama in Birmingham, 1919 8th Avenue South. Both oral and written comments will be accepted and a transcript of the hearing proceedings will be made. For the accuracy of the record, written comments are encouraged. The Hearing Officer reserves the right to fix reasonable limits on the time allowed for oral statements.

A fact sheet which outlines the applicant's proposed discharges and EPA's proposed pollutant limitations and conditions is available by writing the EPA. A copy of the draft permit is appended to the draft EIS summary document and is also available from the EPA, Region IV office. The permit application, supporting data, draft environmental impact statement, comments received and other information are available for review and copying at 345 Courtland Street, N.E., Atlanta, Georgia 30308, between the hours of 8:15 a.m. and 4:30 p.m., Monday through Friday. A copying machine is available for public use at a charge of 20 cents per page.

The Alabama Water Improvement Commission has been requested to certify the discharge in accordance with the provisions of Section 401 of the Federal Water Pollution Control Act, as amended (P.L. 92-500). Persons wishing to comment on the state certification of this discharge are invited to submit same in writing to the state agency address above within 30 days of the date of this notice. Since a public hearing will be held, the state agency will hear and receive comments relative to state certification.

Persons wishing to comment upon or object to the project, the NPDES permit modification, the proposed permit limitations and conditions, and/or the draft EIS are invited to respond in writing by June 29, 1978, to Enforcement Division, U. S. Environmental Protection Agency, 345 Courtland Street, N.E., Atlanta, Georgia 30308, Attn: Ms. Mona Ellison. The NPDES number (AL0003646) should be included in the first page of comments. All comments received by June 29, 1978, will be considered in the formulation of final determinations regarding the final EIS and the NPDES permit modification and permit conditions. Response to all substantive comments made at this public information hearing will be published in the final EIS. Requests for adjudicatory hearings on the NPDES permit may be filed after the

Regional Administrator makes the above described determinations. Additional information regarding an adjudicatory hearing is available in the July 24, 1974, Federal Register, 39, page 27081 or by contacting the Legal Support Branch, Enforcement Division, at the address above or at 404/881-3506.

Copies of the draft EIS which include the draft NPDES permits and the Supporting Report are also available for review at the following libraries:

Birmingham Main Library, 2020 7th Avenue North
Avondale Branch, 509 40th Street, Birmingham
East Ensley Branch, 900 14th Street, Ensley
East Lake Branch, 5 South 77th Street, Birmingham
Ensley Branch, 1201 25th Street, Ensley
Georgia Road Branch, 501 43rd Street, Birmingham
Huffman Branch, 501 Huffman Road, Birmingham
North Birmingham Branch, 3200 27th Street North, Birmingham
Parke Memorial Branch, 1814 11th Avenue South, Birmingham
Pratt City Branch, 820 2nd Street, Pratt City
Slossfield Branch, 1916 25th Court North, Birmingham
Smithfield Branch, 18th Avenue West, Birmingham
Southside Branch, 26th Avenue Southwest, Birmingham
West End Branch, 1241 Tuscaloosa Avenue Southwest, Birmingham
Woodlawn Branch, 5709 1st Avenue North, Birmingham
Wylam Branch, 4300 7th Avenue, Birmingham

Please bring the foregoing to the attention of persons who you know will be interested.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET
ATLANTA, GEORGIA 30308

FACT SHEET

MODIFICATION FOR NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT TO DISCHARGE TREATED WASTEWATER TO U.S. WATERS

Permit No. AL 0003646 Date May 14, 1978

1. SYNOPSIS OF APPLICATION - This fact sheet pertains to the proposed modification of the NPDES permit to increase effluent limitations which result from the start up of a new (No. 8) blast furnace.

   a. Name and Address of Applicant

      United States Steel Corporation
      600 Grant Street
      Pittsburgh, Pennsylvania 15230

   b. Description of Applicant's Operation

      No. 8 blast furnace will produce molten basic iron (SIC 3312)

   c. Production Capacity of Facility

      5,000 tons/day

   d. Applicant's Receiving Waters

      Opossum Creek

   e. Description of Pollution Abatement Facilities

f. Description of Discharges (as reported by applicant)

Additions to Serial 010 thru 027.

None at the present time, the facility is new and is scheduled to begin discharge by the end of September.

2. PROPOSED EFFLUENT LIMITATIONS

Additions to Serial 010 thru 027.

Permitted Maximum Temperature - No limit.
Permitted pH Range (std. units) -

Effluent Characteristic	Discharge Limitations			
	kg/day (lbs/day)		Other Units (Specify)	
	Daily Avg (Gross)	Daily Max (Gross)	Daily Min.	Daily Max
TSS	59(130)	177(390)	—	—
CN-A	.6(1.3)	1.8(4.0)	—	—
Phenol	1.2(2.6)	3.6(8.0)	—	—
NH_3-N	24(52)	71(156)	—	—
Sulfide	.7(1.6)	2.3(5)	—	—
Flouride	47(104)	142(312)	—	—
pH. std. units	—	—	6.0	9.0

3. MONITORING REQUIREMENTS

The applicant will be required to monitor regularly for flow and those parameters limited in Section 2 above with sufficient frequency to ensure compliance with the permit conditions. Frequency, methods of sampling, and reporting dates will be specified in the final permit.

4. PROPOSED COMPLIANCE SCHEDULE FOR ATTAINING EFFLUENT LIMITATIONS

Effluent limitations are to be met on the effective date of the permit.

5. PROPOSED SPECIAL CONDITIONS WHICH WILL HAVE A SIGNIFICANT IMPACT ON THE DISCHARGE

The quantities shown in Section 2 become limitations at the point where No. 8 blast furnace wastewater is discharged to the total mill raw waste stream upon a rainfall that would cause the total mill effluent to exceed its limits.

6. WATER QUALITY STANDARDS AND EFFLUENT STANDARDS APPLIED TO THE DISCHARGE

The quantities shown in Section 2 are based on the New Source Performance Standards for basic iron blast furnaces as published in the Federal Register, January 28, 1974. These standards were remanded by the third circuit court on November 7, 1975.

The receiving waters were classified as industrial operations by the AWIC on December 19, 1977. This classification was disapproved by the EPA on April 13, 1978.

7. PROCEDURES FOR THE FORMULATION OF FINAL DETERMINATIONS

a. Comment Period

The Environmental Protection Agency proposes to issue an NPDES permit to this applicant subject to the effluent limitations and special conditions outlined above. These determinations are tentative and open to comment from the public.

Interested persons are invited to submit written comments regarding permit issuance or the proposed permit limitations and conditions to the following address:

Enforcement Division
Environmental Protection Agency
345 Courtland Street, N. E.
Atlanta, Georgia 30308
ATTN: Mona Ellison

All comments received within 30 days of the date of this fact sheet will be considered in the formulation of final determinations with regard to proposed permit issuance.

b. Public Hearings

The Regional Administrator has determined that a public hearing will be held in order to foster further public participation with regard to the proposed permit issuance. The hearing is scheduled for

Both oral and written comments will be accepted; however, for the accuracy of the record, written comments are encouraged. The Regional Administrator or his designee reserves the right to fix reasonable limits on the time allowed for oral statements.

Following the public hearing, the Regional Administrator may make such modifications in the terms and conditions of the proposed permit as may be appropriate and shall issue or deny the permit. Notice of issuance or denial will be circulated to those who participated in the hearing and to appropriate persons on the EPA mailing list.

If the permit is issued, it will become effective 30 days following date of issuance and will be the final action of EPA unless an adjudicatory hearing is granted.

C. Adjudicatory Hearing and/or Legal Decision

If the determinations are substantially unchanged, any interested person may submit a request for an adjudicatory hearing and/or legal decision on the permit and its conditions within ten days of the receipt of the notice described above. If the determinations are substantially changed, any interested person may submit a request for an adjudicatory hearing and/or legal decision within ten days of the date of the public notice or of the date of becoming aware of the determinations, whichever comes first. Such requests will be within the time period if mailed by certified mail within the ten-day period to the Regional Hearing Clerk, Environmental Protection Agency, 345 Courtland Street, Atlanta, Georgia 30308 . All requests must:

(i) State the name and address of the person making such request;

(ii) Identify the interest of the requestor which is affected by the proposed issuance, denial or modification of the permit contained in the determination of the Regional Administrator;

(iii) Identify any persons whom the request represents;

(iv) Include an agreement by the requestor to be subject to examination and cross-examination and to make any employee or consultant of such requestor or other person represented by the requestor available for examination and cross-examination at the expense of such requestor or such other person upon the request of the Presiding Officer, on his own motion, or on the motion of any party.

(v) State with particularity the reasons for the request;

(vi) State with particularity the issues proposed to be considered at the hearing; and

(vii) Include proposed terms and conditions which, in the judgment of the requestor, would be required to carry out the intendment of the Act.

The granting of a request will stay only the contested portions of the permit. Uncontested provisions of the permit shall be considered issued and effective and the permittee must comply with such provisions. The final Agency decision on the permit provisions contested at an adjudicatory hearing will be made in accordance with Title 40, Code of Federal Regulations, Section 125.36 found at 39 Federal Register 27081, et. seq.

DRAFT

Permit No. AL 0003646
Application No. AL 076 OYM 3 000610

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

1. In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et. seq; the "Act"),

United States Steel Corporation

is authorized to discharge from a facility located at

United States Steel Corporation
Fairfield District Works
P. O. Box 599
Fairfield, Alabama 35064

to receiving waters named

Discharge Serial Nos. 002 thru 009 enter Village Creek
Discharge Serial Nos. 010 thru 027 enter Opossum Creek
Discharge Serial No. 029 enters Valley Creek

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, and III hereof.

2. This permit shall become effective on

3. This permit and the authorization to discharge shall expire at midnight,

4. Signed this day of

Regional Administrator

DRAFT

MONITORING AND REPORTING

5. *Representative Sampling*

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

6. *Reporting*

Monitoring results obtained during the previous month shall be summaried for each month and reported on a Discharge Monitoring Report Form (EPA No. 3320-1), postmarked no later than the 28th day of the month following the completed reporting period. The first report is due on , . Duplicate signed copies of these, and all other reports required herein, shall be submitted to the Regional Administrator and the State at the following addresses:

U. S. ENVIRONMENTAL PROTECTION AGENCY
REGION IV
WATER ENFORCEMENT BRANCH
345 COURTLAND STREET, NE
ATLANTA, GEORGIA 30308

AL Water Improve. Comm.
State Ofc Bldg.
Montgomery, AL 36130

7. *Definitions*

a. The "daily average" discharge means the total discharge by weight during a calendar month divided by the number of days in the month that the production or commercial facility was operating. Where less than daily sampling is required by this permit, the daily average discharge shall be determined by the summation of all the measured daily discharges by weight divided by the number of days during the calendar month when the measurements were made.

b. The "daily maximum" discharge means the total discharge by weight during any calendar day.

8. *Test Procedures*

Test procedures for the analysis of pollutants shall conform to regulations published pursuant to Section 304(g) of the Act, under which such procedures may be required.

9. *Recording of Results*

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date, and time of sampling;

b. The dates the analyses were performed;

c. The person(s) who performed the analyses;

DRAFT

d. The analytical techniques or methods used; and

e. The results of all required analyses.

10. *Additional Monitoring by Permittee*

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report Form (EPA No. 3320-1). Such increased frequency shall also be indicated.

11. *Records Retention*

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Regional Administrator or the State water pollution control agency.

MANAGEMENT REQUIREMENTS

12. *Change in Discharge*

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any anticipated or detected new or different discharges of pollutants must be reported to the Regional Administrator. Following such report, the permit may be modified to specify and limit any pollutants not previously limited.

13. *Noncompliance Notification*

If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum effluent limitation specified in this permit, the permittee shall provide the Regional Administrator and the State with the following information, in writing, within five (5) days of becoming aware of such condition:

a. A description of the discharge and cause of noncompliance; and

b. The period of noncompliance, including exact dates and times: or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

14. *Facilities Operation*

The permittee shall at all times maintain in good working order and operate at optimum efficiency all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.

15. *Adverse Impact*

The permittee shall take all reasonable steps to minimize any adverse impact to navigable waters resulting from noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

16. *Bypassing*

Any diversion from or bypass of facilities necessary to maintain compliance with the terms and conditions of this permit is prohibited, except (i) where unavoidable to prevent loss of life or severe property damage, or (ii) where excessive storm drainage or runoff

DRAFT

17. *Removed Substances*

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.

18. *Power Failures*

In order to maintain compliance with the effluent limitations and prohibitions of this permit, the permittee shall either:

a. In accordance with the Schedule of Compliance contained in Part I, provide an alternative power source sufficient to operate the wastewater control facilities;

or, if such alternative power source is not in existence, and no date for its implementation appears in Part I,

b. Halt, reduce or otherwise control production and/or all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater control facilities.

RESPONSIBILITIES

19. *Right of Entry*

The permittee shall allow the head of the State water pollution control agency, the Regional Administrator, and/or their authorized representatives, upon the presentation of credentials:

a. To enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and

b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any discharge of pollutants.

20. *Transfer of Ownership or Control*

In the event of any change in control or ownership of facilities from which the authorized discharges emanate, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Regional Administrator and the State water pollution control agency.

21. *Availability of Reports*

Except for data determined to be confidential under Section 308 of the Act, all reports prepared in accordance with the terms of this permit shall be available for public

DRAFT

inspection at the offices of the State water pollution control agency and the Regional Administrator. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act.

22. *Permit Modification*

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

a. Violation of any terms or conditions of this permit;

b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

23. *Toxic Pollutants*
If a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(A) of the Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in the permit, and the Agency seeks to revise or modify the permit in accordance with the toxic effluent standard or prohibition, the permittee shall have notice and opportunity for hearing, with right of appeal, on the method of application of the toxic standard or prohibition if such application requires the use of discretion, judgement, or calculation by the permitting Agency. This provision is subject to the attached agreement.

24. *Civil and Criminal Liability*

Except as provided in permit conditions on "Bypassing" (Part II, A-5) and "Power Failures" (Part II, A-7), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. This provision is subject to the attached agreement.

25. *Oil and Hazardous Substance Liability*

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act.

26. *State Laws*

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Act.

DRAFT

27. *Property Rights*

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights.

28. *Severability*

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

29. Other Requirements

This permit shall be subject to an agreement between United States Steel Corporation and the U. S. Environmental Protection Agency attached hereto.

a. The "daily average" concentration means the arithmetic average (weighted by flow value) of all the daily determinations of concentration made during a calendar month. Daily determinations of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the daily determination of concentration shall be the arithmetic average (weighted by flow value) of all the samples collected during that calendar day.

b. The "daily maximum" concentration means the daily determination of concentration for any calendar day.

c. "Weighted by flow value" means the summation of each sample concentration times its respective flow in convenient units divided by the total flow.

d. For the purpose of this permit, a calendar day is defined as any consecutive 24-hour period.

e. For discharge serial numbers 010-027 from the Fairfield Works, all effluent limitations, except temperature, pH and dissolved oxygen, shall be based upon "net daily loadings or concentrations," which are defined as the net difference between the product of inlet volume times inlet concentration times a volume-to-weight conversion factor of 8.34, and the product of discharge volume times discharge concentration times the same 8.34 factor; or the net difference between inlet and outlet concentrations.

LUENT LIMITATIONS AND MONITORING REQUIREMENTS

ing the period beginning on the effective date of this permit and lasting through the term of this permit, permittee is authorized to discharge from outfall(s) serial number(s) 002 ; . Blast Furnace (Ensley Works)

ch discharges shall be limited and monitored by the permittee as specified below:

fluent Characteristic	Discharge Limitations				Monitoring Requirements	
	kg/day (lbs/day)		Other Units (Specify)			
	Daily Avg	Daily Max	Daily Avg	Daily Max	Measurement Frequency	Sample Type
Flow—m³/Day (MGD)	—	—	—	—	Once/Week	Instantaneous
Temperature, °C(°F)	—	—	—	35(95)	Once/Week	Grab
Ammonia-Nitrogen	214(472)	643(1417)	—	—	Once/Week	Composite
Cyanide	—	-0-	—	—	Once/Week	Composite
Phenols	6.8(15)	20.9(46)	—	—	Once/Week	Composite
TSS	—	—	41 mg/l	67 mg/l	Once/Week	Composite

*This limit shall become effective on January 1, 1982. An interim effluent limitation of 46 Kg/day(100 lb/day) daily maximum shall be effective from the effective date of the permit thru December 31, 1978, and an interim final effluent limitation of 23 Kg/day(50 lb/day) daily maximum shall be effective from January 1, 1979, thru December 31, 1981.

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored once/week with a grab sample.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): nearest accessible point after final treatment but prior to actual discharge or mixing with the receiving waters.

DRAFT

2. During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from outfall(s) serial number(s) 003-009; Ensley Mills

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations					Monitoring Requirements	
	kg/day (lbs/day)		Other Units (Specify)				
	Daily Avg	Daily Max	Daily Avg	Daily Max		Measurement Frequency	Sample Type
Flow—m³/Day (MGD)	—	—	—	—		Once/Week	Instantaneous
Temperature °C(°F)	—	—	—	35(95)		Once/Week	Grab
TSS	—	—	50 mg/l	100 mg/l	*	Once/Week	Composite
Oil & Grease	—	—	18 mg/l	30 mg/l	*	Once/Week	Grab
Iron	—	—	5 mg/l	10 mg/l	*	Once/Week	Composite
Zinc	—	—	1 mg/l	2 mg/l	*	Once/Week	Composite

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored once/week with a grab sample.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): nearest accessible point after final treatment but prior to actual discharge or mixing with the receiving waters. .

*Concentration discharge limitations are combined flow weighted averages.

DRAFT

During the period beginning on the effective date of this permit and lasting through June 30, 1977, the permittee is authorized to discharge from outfall(s) serial number(s) 010-027, Fairfield Works.

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations				Monitoring Requirements	
	kg/day (lbs/day)		Other Units (Specify)			
	Daily Avg	Daily Max	Daily Avg	Daily Max	Measurement Frequency	Sample Type
Flow—m^3/Day (MGD)	—	—	—	—	Continuous	Recorder
Temperature °C(°F)	—	—	—	35(95)	Continuous	Recorder
Ammonia-Nitrogen	—	789(1740)	—	—	Once/Week	24-Hour Composite
Cyanide	—	23(50)	—	—	Once/Week	24-Hour Composite
Phenols	—	15.8(35)	—	—	Once/Week	24-Hour Composite
TSS	1800(4000)	3510(7300)	—	—	Once/Week	24-Hour Composite
Oil & Grease	291(640)	631(1391)	—	—	Once/Week	Grab
T.D. Iron	136(300)	272(600)	—	—	Once/Week	24-Hour Composite
COD	5761(12690)	9568(21074)	—	—	Once/Week	24-Hour Composite
Total Chromium	4.5(10)	13.5(30)	—	—	Once/Week	24-Hour Composite
Total Zinc	41(90)	74(163)	—	—	Once/Week	24-Hour Composite
Tin	70(155)	140(310)	—	—	Once/Week	24-Hour Composite
Fluoride	202(446)	320(705)	—	—	Once/Week	24-Hour Composite

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored once/week with a grab sample.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the facility already established and defined as the Opossum Creek Monitoring Station.

A weekly average D.O. concentration of 5.0 mg/l shall be maintained in the discharge. This parameter shall be monitored five times per week using a grab sample. After a period of one year the monitoring frequency may be modified based upon an evaluation of the data.

Permit No. AL0003646
Revised

DRAFT

Proposed Modification

4. During the period beginning on the modification effective date and lasting through the term of the permit, the permittee is authorized to discharge from outfall(s) serial number(s) 010-027; Fairfield Works.

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations				Monitoring Requirements	
	kg/day (lbs/day)		Other Units (Specify)			
	Daily Avg	Daily Max	Daily Avg	Daily Max	Measurement Frequency	Sample Type
Flow—m^3/Day (MGD)	—	—	—	—	Continuous	Recorder
Temperature $^{O}C(^{O}F)$	--	--	--	35(95)	Continuous	Recorder
Ammonia-Nitrogen	--	860(1896)	--	--	Once/Week	24-Hour Composite
Cyanide	--	24.5(54)	--	--	Once/Week	24-Hour Composite
Phenols	--	19.5(43)	--	--	Once/Week	24-Hour Composite
TSS	1930(4255)	3828(8440)	--	--	Once/Week	24-Hour Composite
Total Zinc	16.3(36)	32.7(72)	--	--	Once/Week	24-Hour Composite
Oil & Grease	354(780)	744(1641)	--	--	Once/Week	Grab
T. D. Iron	136(300)	272(600)	--	--	Once/Week	24-Hour Composite
COD	5761(12690)	9568(21074)	--	--	Once/Week	24-Hour Composite
Total Chromium	4.5(10)	13.5(30)	--	--	Once/Week	24-Hour Composite
Tin	70(155)	140(310)	--	--	Once/Week	24-Hour Composite
Fluoride	323(713)	577(1271)	--	--	Once/Week	24-Hour Composite

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored once/week with grab samples.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the facility already established and defined as the Opossum Creek Monitoring Station.

A weekly average D.O. concentration of 5.0 mg/l and a daily minimum of 4.0 mg/l shall be maintained in the discharge. This parameter shall be monitored five times per week using a grab sample. After a period of one year, the monitoring frequency may be modified based upon an evaluation of the data.

DRAFT

5. During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from outfall(s) serial number(s) 029A and 029(Sintering Plant).

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations kg/day (lbs/day) Daily Avg	Discharge Limitations kg/day (lbs/day) Daily Max	Other Units (Specify) Daily Avg	Other Units (Specify) Daily Max	Monitoring Requirements Measurement Frequency	Monitoring Requirements Sample Type
DSN 029A - Sanitary Wastewaters: (Effective July 1, 1977)						
Flow—m^3/Day (MGD)	—	—	—	—	Once/Month	Instantaneous
Fecal Coliform	—	—	200/100ml	400/100ml	Once/Month	Grab
BOD	—	—	30 mg/1	45 mg/1	Once/Month	24-Hour Composite
DSN 029 - Process and Sanitary:						
Flow-m^3/Day(MGD)	—	—	—	—	Once/Week	Instantaneous
Temperature °C(°F)	—	—	—	35(95)	Once/Week	Grab
TSS	—	—	40 mg/1	60 mg/1	Once/Week	24-Hour Composite
Oil & Grease	—	—	10 mg/1	20 mg/1	Once/Week	Grab

The pH shall not be less than 6.0 standard units nor greater than 9.5 standard units and shall be monitored at 029 once/week with grab samples. This requirement will become effective on July 1, 1977.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): nearest accessible point after final treatment but prior to actual discharge or mixing with the receiving waters.

6. The following limits shall be used to determine compliance with discharge numbers 010-027 during periods of rainfall or rainfall drainage. In the event the discharge of any wastewater from discharges 010-027 exceeds the parameters set out on pages 11 thru 16 of 21 by reason of rainfall or rainfall drainage, the Company must show compliance with this permit by proving that the performance values so established in this section are being met at each such treatment system.*

Effluent Characteristic	Discharge Limitations				Monitoring Requirements	
	kg/day (lbs/day)		Other Units (Specify)			
	Daily Avg	Daily Max	Daily Min.	Daily Max	Measurement Frequency	Sample Type
A. Tin Mill		(Gross)				
Flow-m^3/Day (MGD)	—	—	—	—	**	Instantaneous
Oil & Grease	—	197(435)	—	—	**	Grab
TSS	—	978(2157)	—	—	**	24-Hour Composite
COD	—	4385(9658)	—	—	**	24-Hour Composite
Conductivity, μmhos	—	—	—	2539	**	Grab
pH, std. units	—	—	6.0	10.0	**	Grab
B. Coke Works						
Flow-m^3/Day (MGD)	—	—	—	—	**	Instantaneous
COD	—	1761(3879)	—	—	**	24-Hour Composite
Phenols	—	2.3(5)	—	—	**	24-Hour Composite
Cyanide	—	14(30)	—	—	**	24-Hour Composite
Ammonia-Nitrogen	—	196(432)	—	—	**	24-Hour Composite
pH, std. units	—	—	6.0	9.0	**	Grab

*Rainy days will be determined by rainfall that is greater than or equal to 0.1".

**On sampled days affected by rainfall or rainfall drainage.

DRAFT

6. Continued

Effluent Characteristic	Discharge Limitations				Monitoring Requirements	
	kg/day (lbs/day)		Other Units (Specify)			
	Daily Avg	Daily Max (Gross)	Daily Min.	Daily Max	Measurement Frequency	Sample Type
C. . Wire Mill						
Flow-m^3/Day(MGD)	—	—	—	—	**	Instantaneous
TSS	—	86(189)	—	—	**	24-Hour Composite
Conductivity, μmhos	—	—	—	2068	**	Grab
pH, std. units	—	—	6.0	12.0	**	Grab
D.1. From effective date of this permit until July 1, 1977, Q-BOP's (2)						
Flow-m^3/Day(MGD)	—	—	—	—	**	Instantaneous
TSS	—	204(449)	—	—	**	24-Hour Composite
Conductivity, μmhos	—	—	—	745	**	Grab
pH, std. units	—	—	6.0	9.0	**	Grab
D.2. From July 1, 1977, untilthe expiration date of this permit, Q-BOP's (3)						
Flow-m^3/Day(MGD)	—	—	—	—	**	Instantaneous
TSS	—	306(674)	—	—	**	24-Hour Composite
Conductivity, μmhos	—	—	—	745	**	Grab
pH, std. units	—	—	6.0	9.0	**	Grab

**On sampled days affected by rainfall or rainfall drainage.

DRAFT

Proposed Modification

6. Continued

Effluent Characteristic	Discharge Limitations				Monitoring Requirements	
	kg/day (lbs/day)		Other Units (Specify)			
	Daily Avg (Gross)	Daily Max (Gross)	Daily Min.	Daily Max	Measurement Frequency	Sample Type
E. 1. Blast Furnaces (No. 5, 6, & 7)						
Flow-m^3/Day(MGD)	--	--	--	--	**	Instantaneous
TSS	--	304(670)	---	--	**	24-Hour Composite
pH, std. units	--	--	6.0	9.0	**	Grab
E. 2. From modification effective date until expiration of the permit, ►.						
Blast Furnace (No. 8)						
Flow-m^3/Day(MGD)	--	--	--	--	On Days of Rain	Instantaneous
TSS	59(130)	177(390	--	--	On Days of Rain	24-Hour Composite
CN-A	.6(1.3)	1.8(4.0)	--	--	On Days of Rain	Grab
Phenol	1.2(2.6)	3.6(8.0)	--	--	On Days of Rain	Grab
NH_3-N	24(52)	71(156)	--	--	On Days of Rain	24-Hour Composite
Sulfide	.7(1.6)	2.3(5)	--	--	On Days of Rain	24-Hour Composite
Fluoride	47(104)	142(312)	--	--	On Days of Rain	24-Hour Composite
pH. std. units	--	--	6.0	9.0	On Days of Rain	Grab

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): nearest accessible point after final treatment but prior to actual discharge or mixing with the receiving waters.

**On sampled days affected by rainfall or rainfall drainage.

B. SCHEDULE OF COMPLIANCE

1. The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule:

I. Discharge Serial No. 002: Permittee shall achieve zero discharge of cyanide by January 1, 1982. An acceptable compliance schedule shall be submitted to EPA and AWIC on/or before January 1, 1981, to include steps to be taken to achieve zero discharge of cyanide by January 1, 1982. The following compliance schedule shall apply:

Effective date of permit-Achieve interim cyanide effluent limitation of 46 kg/day(100 lbs/day) daily maximum.

September 1, 1977 - Submit Progress Report.

July 1, 1978 - Submit Progress Report.

January 1, 1979-Achieve interim final cyanide effluent limitations of 23 kg/day(50 lbs/day) daily maximum and begin preliminary engineering.

April 1, 1979 - Submit Progress Report.

January 1, 1980-Submit Progress Report.

September 1, 1980 - Submit Progress Report.

July 1, 1981 - Submit Progress Report.

January 1, 1982-Achieve zero discharge of cyanide.

II. Discharge Serial Nos. 003-009: There shall be no sanitary discharges from Ensley Mills after June 30, 1977.

III. Discharge Serial Nos. 010-027: Attain final zinc (total) limitations by July 1, 1977.

IV. Discharge Serial No. 029: Attain pH limitations by July 1, 1977.

V. Discharge Serial No. 029A: Attain BOD and fecal coliform limitations by July 1, 1977.

2. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.